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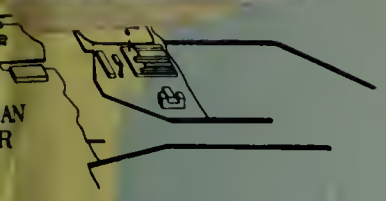
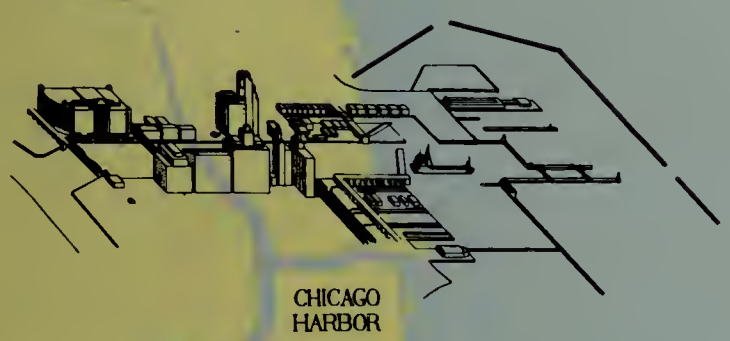
"MEETING THE CHALLENGE OF THE SEAWAY"

A REPORT BY THE

ILLINOIS-INDIANA BI-STATE DEVELOPMENT
AND STUDY COMMISSION





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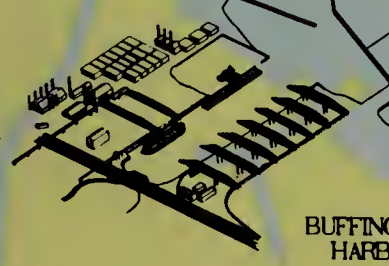

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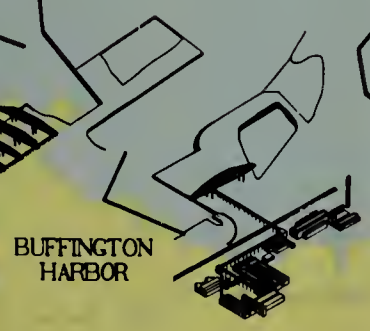

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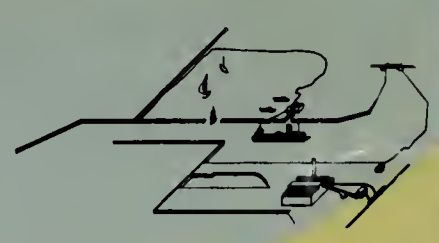

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MEETING THE CHALLENGE OF THE SEAWAY

A Report

On the Problems Involved in

Obtaining for the Lower Lake Michigan Area

Its Rightful Share of Trade and Commerce

Arising From or Incident to

The St. Lawrence Seaway

TO

The 71st Illinois General Assembly

BY

THE ILLINOIS-INDIANA BI-STATE
DEVELOPMENT AND STUDY COMMISSION

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MARCH, 1959

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CHAIRMAN
REPRESENTATIVE
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VICE CHAIRMAN
Hjalmar W. Johnson

SECRETARY
REPRESENTATIVE
Nathan J. Kinnally

SENATORS
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REPRESENTATIVES
Edward J. Derwinski

PUBLIC MEMBERS
Kenneth E. Crago
(Deceased)
James J. Haines
William T. Kirby

STATE OF ILLINOIS
WILLIAM G. STRATTON, GOVERNOR

ILLINOIS-INDIANA BI-STATE DEVELOPMENT
AND STUDY COMMISSION

1808 STATE OF ILLINOIS BUILDING

160 N. LA SALLE ST., CHICAGO 1, ILL.

March 30, 1959

Honorable William G. Stratton, Governor
and the Members of the 71st Illinois General Assembly

Gentlemen:

Pursuant to the provisions of House Bill No. 846, approved July 6, 1957, this Commission submits herewith its conclusions and recommendations resulting from "a study and investigation into the problems involved in obtaining for the lower Lake Michigan area its rightful share of trade and commerce arising from or incident to the St. Lawrence Seaway and in providing adequate facilities for handling such trade and commerce in such area, such as breakwaters and other shipping and navigational aids."

Our report includes factual material to aid in understanding the various port problems which exist in the area and in support of the proposed legislation which is designed to aid in their solution.

While it is regrettable that the representatives of the State of Indiana were unable to sponsor joint legislation in this session of the Indiana General Assembly, as proposed in Appendix A, port development embodying regional needs is cogent. In the meantime, legislation proposed in Appendix B is designed to continue efforts to obtain a means of solution to regional port problems, coordinated between the two states, while concurrently organizing the port promotion and protection efforts in Illinois for maximum development of the commerce potential in the region.

Terminal facilities constructed and under rehabilitation in the area appear to be adequate in capacity and design to provide for the first few years of waterborne commerce activity after the opening of the Seaway in 1959. Estimates of traffic in 1962 and later indicate the need for a position of readiness to be reached which will facilitate the taking of prompt action, as required, to provide additional terminal facilities. Until a body with overall port development planning responsibilities exists in the region or in Illinois, the coordination in provision of additional facilities, as to location and time of construction, must result from voluntary cooperation between the existing port administrative agencies in each harbor or port district in the region.

The Commission members were saddened by the sudden death of Mr. Kenneth E. Crago, public member, on October 10, 1958 after a short period of illness. His devotion to the work of this Commission was exemplary.

Mr. James J. Haines, appointed vice Mr. Crago, brought to the Commission a fine background knowledge of and interest in the water transportation activities and problems of the greater Chicago area which has enabled him to effectively contribute to the Commission's work with minimum orientation.

The report sets forth the opinions of the members of the Commission, following hearings, discussions, investigations, and review of published material on port development and related problems pertaining to the present and future waterborne commerce of the lower Lake Michigan area.

The Commission acknowledges the valuable assistance and whole-hearted cooperation of the many individuals, governmental agencies, private associations and corporations, and staff members whose efforts made this report possible. A separate listing follows this letter.

Respectfully submitted,

Representative Albert W. Hachmeister
Chairman

Hjalmar W. Johnson
Vice-Chairman

Representative Nathan J. Kinnally
Secretary

Congressman Edward J. Derwinski
(Former State Representative)

Senator John J. Donovan

Senator Daniel D. Dougherty

Senator Hayes Robertson

Kenneth E. Crago (Deceased)

Mr. James J. Haines

Mr. William T. Kirby

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The following individuals, civic organizations, governmental agencies, and industries gave generously of their time in furnishing information at hearings held by the Commission:

The Association of Western Railways, represented by Mr. C. M. Roddewig, President.

The Illinois River Carriers Association, represented by Mr. Arnold I. Sobel, Secretary-Treasurer and Mr. John O. Innes, Member.

Great Lakes Overseas Freight Conferences, represented by Mr. George H. Weiss, Chairman.

Calumet Region Congress, represented by Mr. Donald O'Toole, President

Northeastern Illinois Metropolitan Area Planning Commission, represented by Mr. Paul Opperman, Executive Director.

Waukegan Port District Board, represented by Mr. F. Ward Just, Chairman, and Mr. Wallace A. Green, General Manager.

Mr. W. Stanley Huggett, Vice President, North Pier Terminal Company, representing terminal operators and stevedores in the area.

Chicago Association of Commerce and Industry, represented by Mr. William B. Miller, Member of the Association's Harbors and Waterways Committee.

Chicago Regional Port District Board, represented by Mr. Maxim M. Cohen, General Manager, and Mr. Ambrose P. Finn, Jr., General Counsel.

The Metropolitan Sanitary District of Greater Chicago, represented by Messrs. Frank W. Chesrow, Casimir Griglik, and John G. Henneberger, Trustees of the District.

City of Chicago, represented by the Honorable Richard J. Daley, Mayor, accompanied by Staff and Department Heads.

Chicago Overseas Shipping Association, represented by Mr. Edwin A. Kuecker.

Dr. Harold M. Mayer, Professor of Geography, The University of Chicago.

Investigations were aided by the following:

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The City of New York, Department of Marine and Aviation--the Commissioner and Staff.

The Civic Federation--Chicago Port Development Council--the Executive Secretary and Staff.

Fabre Line--General Delegate in the Americas, Chicago.

Illinois Commerce Commission.

Illinois Legislative Council.

Illinois Legislative Reference Bureau.

The Niagara Frontier Port Authority Board and Staff.

Port of Detroit--Port of Detroit Commission and Staff, Greater Detroit Board of Commerce, Detroit Marine Terminals, Inc., The Detroit Free Press, and The Detroit News.

Port of Milwaukee--Municipal Port Director and Staff.

The Port of New York Authority--Executive Director and Staff.

Toledo-Lucas County Port Authority--General Manager and Staff, and Manager, Toledo Industrial Development Council.

The Toronto Harbour Commissioners--General Manager and Staff.

U. S. Army, Corps of Engineers--The North Central Division and The Chicago District Engineers, and their Staffs.

The Illinois Commerce Commission and the Illinois Department of Finance, Springfield and Chicago Staffs, were particularly helpful in their administrative assistance to the Commission.

The material for the report was compiled and edited by Paul E. LaDue, Colonel, U. S. Army (Ret.), formerly Corps of Engineers, and John W. Urner, Ph. D. Mrs. Isabel C. Conlin, Administrative Secretary, in addition to final typing assistance, ably performed many other valuable services including general administration, editing and proofreading. Mrs. Imogene P. Lofland helpfully served as the administrative staff member until early December, 1958.

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CHAPTER I

INTRODUCTION

The Lake Michigan perimeter of Illinois and Indiana consists of an impressive complex of major and minor commercial and industrial port operations behind which lies an enormous consuming and producing area. Few other United States port areas can compare in terms of geographical size, population size and density, diversity and magnitude of industry, and the variety of port elements. The Port of New York and the Delaware River port areas, one and two respectively in size among all United States ports, are the only close parallels. In the last few years the port of Hampton Roads, Virginia, has moved into the nation's number three spot in terms of total volume of cargo handled annually. The Port of Chicago, when defined according to the Army Corps of Engineers, ranks fourth in total tonnage (1957 figures), exceeding such prominent ports as Baltimore, New Orleans, and San Francisco.

Waterway and harbor improvements already underway or soon to be scheduled promise to make the Port of Chicago an even more vital national asset. Not only will these improvements considerably raise the Port's total annual tonnage of waterborne commerce, but they will make the Port area and its hinterland an even more attractive place for industrial and commercial expansion. See Figure 1 for Chicago's relationship with the inland waterways routes. The improvements expected to have the biggest impact on the Port include:

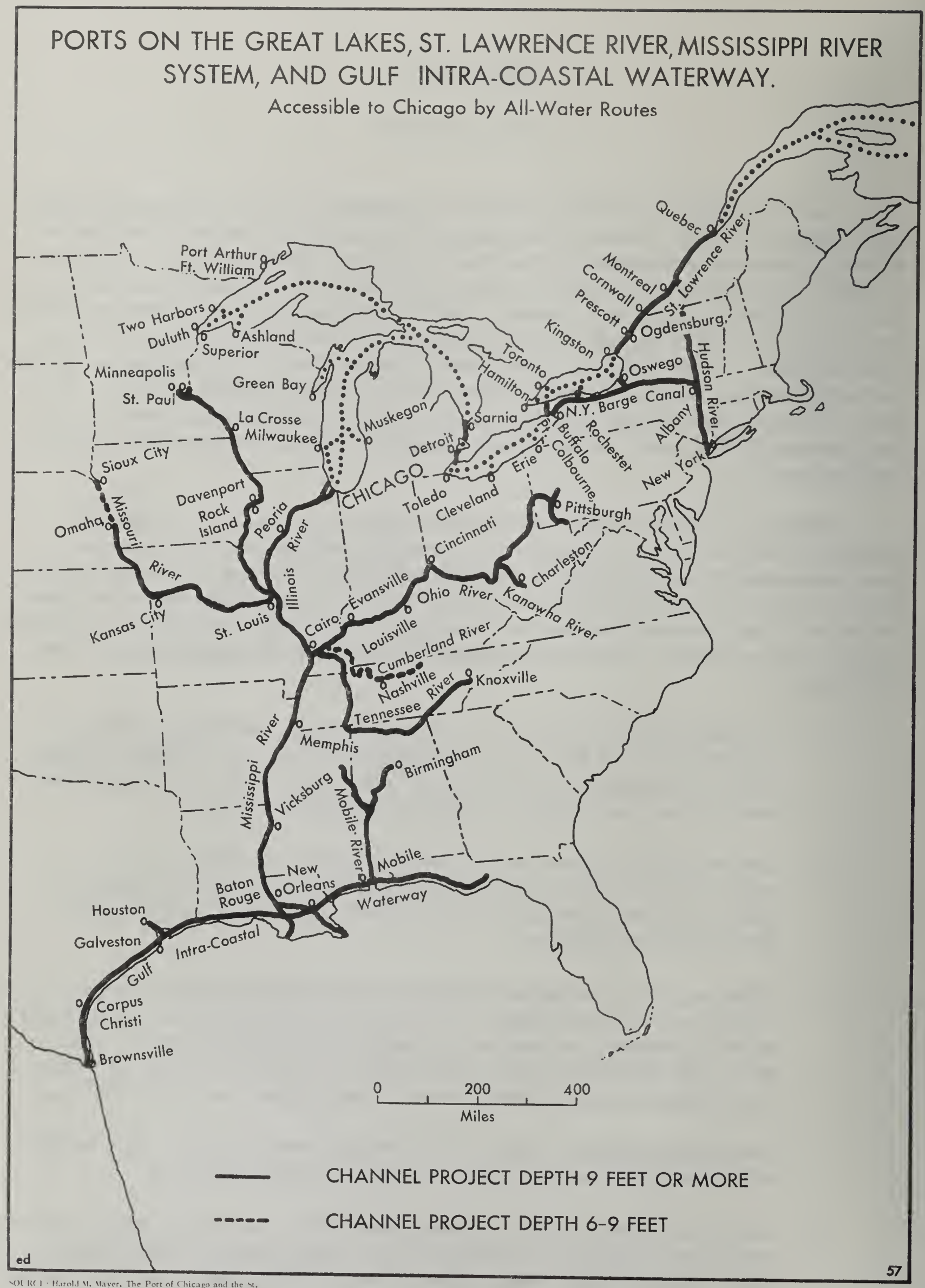
1) Enlargement by 1959 of the St. Lawrence Seaway, including deepening of the Welland Canal between Lakes Ontario and Erie, into a modern waterway able to accommodate the largest lake bulk cargo vessels and average-sized ocean going vessels typical of those in use at sea coast ports;

2) Deepening of the Great Lakes connecting channels by 1962 or 1963, especially the link between Lakes Erie and Huron, in order to permit safe passage into the upper Lakes and to Chicago of all vessels utilizing full Seaway draft of 25.5 feet.

3) Widening of the channel and elimination of restrictive bridge crossings by 1963 along the entire length of the Calumet-Sag Channel--the crucial barge route link between the northern extension of the Illinois Waterway, a part of the vast Mississippi Valley Inland Waterway System, and the Port's major installations at Lake Calumet Harbor, Calumet River, and Calumet Harbor.

4) Deepening of selected harbors within the next several years in order to allow ships drawing the maximum Seaway draft to use the harbor areas.

5) Removal or reconstruction of at least three obstructive railway bridges across the Calumet River and the straightening of certain sections of that River by 1963 in order that the longer vessels expected on the Great Lakes can use the



SOURCE: Harold M. Mayer, The Port of Chicago and the St. Lawrence Seaway, Chicago: University of Chicago Press, 1957.

Figure 1.

Ports on the Great Lakes, St. Lawrence River, Mississippi River System, and Gulf Intra-Coastal Waterway Accessible to Chicago by All-water Routes

terminals along Calumet River and in Lake Calumet Harbor and in order that the many ship passages through the 6 mile long Calumet River can be safer and easier.

Removing hindrances to navigation is, however, only one of the phases of port development with which citizens of Illinois and Indiana must be concerned. Of equal importance to the Port is the provision of terminal and related physical facilities along with other shipping services required for efficient and low cost handling of the Port's growing bulk and general cargo tonnages. To help ensure this capability, new and modernized general cargo terminals and new cargo handling equipment have been or are being provided primarily in Lake Calumet and Chicago Harbors.

Building new waterfront facilities, from a transit shed to a whole new lakeshore harbor, may prove an extremely costly and an extremely decisive matter. Regardless of who builds the port facilities, much economic waste and out-of-joint development--holding back optimal Port growth--remains a real threat if enlightened decisions are not also made in the planning of the Port's future. Competent port planning, adequately tied in with available planning for the solution of other metropolitan problems, remains a compelling necessity if for no other reason than the dynamic character of the broadly based economic forces determining the Port's and in fact the Midwest's future economic well being. Such forces range from institution of the European Common Market to the world demand and supply of grain to the future changes in national transportation policy. Any port planning which does not keep abreast of and anticipate changes in the underlying conditions so important for the Port's growth will surely fail. In the appropriate words of a leading Chicago planner:

> "All of these steps are directed toward halting the current practice of planning tomorrow's facilities according to today's needs, toward creating orderly patterns of expansion, and toward protecting existing assets from being engulfed by wave upon wave of 'unplanned progress.'" [1]

A period of great growth seems in store for the Port's economic role as shipper and receiver of Great Lakes commerce and exporter and importer of foreign commerce. The latter movement has heretofore been relatively small, but it can now grow rapidly as the Port takes advantage of its simultaneous location at the end of an all-water, low cost route to Northern Europe and other trading areas and as the principal producing and consuming center of mid-America having many direct transportation connections with important midwestern areas of agricultural, mineral, and manufacturing activity. The provision via this route of increased accessibility to the burgeoning supply of raw materials from eastern Canada and from overseas points in order to reinforce our dwindling reserves and to assure sources of raw materials for future industrial expansion--this new ability is of tremendous economic and military importance.

Too much optimism over the Port's future would prove a dangerous matter if it led to neglecting the very real Port promotion job that lies ahead. Large new patterns of

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[1]Frederick T. Aschman, Chicago Daily News, July 30, 1955.

commerce do not just drop into place without anybody going out and dickering for equitable freight rates vis-a-vis seacoast ports, or demonstrating to shippers and receivers the new advantages of the Port. These jobs will take time, considering the long standing trade habits and the efforts being made by some railroads, eastern and southern ports, and the ocean carrier conferences serving those ports to retain their current economic position. The need is therefore apparent for hand-in-hand development of new commerce, improved waterways, improved harbor and cargo handling facilities, and an adequate number of ships capable of utilizing the advantages of the new water routes. A progressive, coordinated program of overcoming the obstacles to optimal port development--whatever their nature--appears the soundest general approach.

In awareness of the impending transformation of this port complex from the largest inland port to a major world port, and to assure a position of readiness to meet the problems which might arise, the Illinois General Assembly in 1957 passed legislation creating the Illinois-Indiana Bi-State Development and Study Commission to study the situation and make recommendations to the 71st General Assembly.

The Problem

As Defined by the Act

The preamble of House Bill No. 846 (see Appendix C), the enabling act, expressed the anticipation of the Legislature that "the volume of commerce and trade entering and leaving ports bordering on the Great Lakes will increase tremendously" and recognized as an economic necessity that "it is essential to the continued growth of the lower Lake Michigan area that such metropolitan areas be able to take advantage of and to receive their rightful share of such trade and commerce."

In view of the situation outlined in the preamble the Commission was given as its purpose to "conduct a thorough study and investigation into the problems involved in obtaining for the lower Lake Michigan area its rightful share of trade and commerce arising from or incident to the opening of the St. Lawrence Seaway and in providing adequate facilities for handling such trade and commerce in such area, such as port and harbor development, causeways, breakwaters, and other shipping and navigational aids."

In the conduct of its study and investigation the Commission was authorized to "meet and cooperate with any commission, board, authority or agency created by the State of Indiana having similar duties, powers or purposes--and with any agency of the federal government having jurisdiction over shipping or navigation or the making of navigational improvements in the lower Lake Michigan area."

The "lower Lake Michigan area" was defined in the Act as all territory included in the counties in Illinois and Indiana that border on Lake Michigan. See Appendix F, Map 26 for delineation of the area.

While the intent of the Legislature seems clear, a review of the Commission's interpretation of the problem is indicated.

As Defined by the Commission

Analysis of the Legislature's assignments--to determine the problems involved in: (1) "obtaining for the lower Lake Michigan area its rightful share of trade and commerce . . . . " and (2) "in providing adequate facilities for handling such trade and commerce in such area as port and harbor developments, causeways, breakwaters . . . . "--reveals that the second assignment merely emphasizes through delineation one of many interrelated problems emerging from the first assignment. Thus, the Commission interprets its assignment as a single one and of broad scope.

The provision of adequate facilities necessitates a determination of the amount of port traffic there will be as a basis for deciding on the port facilities required. The factors on which such a determination depends for accuracy are many. Future estimates have been made and the results vary widely. However, several recent studies are available which will assist in revising and refining the previous estimates. These matters are detailed in Chapter III. Questions of terminal capacity to handle the expected increased commerce, as well as other physical matters at Port harbors, will be taken up in Chapter V.

The planning required to insure the availability of facilities when needed should be comprehensive in nature and must in the face of dynamic growth, be kept current. Port planning up to the present has been by individual harbors and should be interrelated to the extent necessary for the avoidance of duplication and economic waste. Port planning considerations appear in Chapter IX.

In addition, there are many problems associated with port development that are characteristic of other major economic developments: such as, housing and transport for workers, land use conflicts, highways, zoning, increased municipal services and facilities, schools, etc. Many are acute problems now, and with further economic and population growth they demand solution. Where state lines are crossed the necessary planning, coordination and control is usually non-existent or cumbersome. This indicates the field for participation by a port agency or agencies in regional and local planning to insure efficient port operations regardless of state, county, or municipal lines. In Chapter IX are further comments and conclusions on this set of problems.

The Legislature by its wording of the Commission assignment desires the Lower Lake Michigan area to "obtain" not merely "receive" its rightful share of trade and commerce. Thus, the concept is suggested--and rightly so--of the Port functioning as a commercial enterprise, seeking to sell in a competitive market the use of its facilities at lower costs and with better service. As with other commercial enterprises, salesmanship has definite bearing on success. Allied to port promotion is port protection, which seeks to obtain freight rates on a basis of parity with other competing ports--in this case, the Atlantic and Gulf Coast ports--and to prevent any freight rate action which discriminates against the port. Freight rates are thoroughly discussed in Chapter IV. Port promotion and protection receive treatment in Chapter VIII.

There are a myriad of other problems, falling in the category of port administration, which require attention by any port. They include: (a) intervention with federal agencies to obtain necessary waterway improvements in the order of priority best suited for the

development of the port; (b) stimulation of industrial development by industries which can take best advantage of waterborne transportation of goods and raw materials; (c) methods of financing new port improvements; (d) accumulation, digest, analysis and dissemination of port statistics on waterborne commerce; and so on. The adequacy of the solution of these port administrative problems by the various individual harbors requires general review to determine if major unsolved problems affecting the trade and commerce of the area remain. Many of the above matters are explored in Chapters VI-IX.

Consideration of the adequacy of the geographic area defined in the enabling Act to encompass the port problems of the region will be discussed in the next section.

Definition of the Area

In the advancement of trade and commerce in a great community composed of large cities, numerous and extensive industrial districts, and many port entities, the public interest is fundamentally economic in character. The territorial extent of economic matters is not necessarily circumscribed by political boundary lines but by factors influencing business, including the facilities existing for transportation of goods. By taking such matters into consideration, opportunities to eliminate wasteful competition and duplication may be possible.

In the Act

House Bill No. 846 creating the Commission defined the lower Lake Michigan area as "all the territory included in the counties of Illinois and Indiana that border on Lake Michigan." See Map 26, Appendix F. While such definition takes in all of the lakefront which might be involved in port development, there may be other factors which require consideration.

The Corps of Engineers, U. S. Army

This federal agency defined the Port of Chicago for statistical reporting purpose as including the 5 lakefront harbors: (1) Chicago Harbor, (2) Calumet Harbor (includes the Calumet River and Lake Calumet), (3) Indiana Harbor, (4) Buffington Harbor, (5) Gary Harbor; plus the 2 major inland waterway routes between Lake Michigan and the Mississippi River System: (a) the Chicago River and its South Branch connected through the Chicago Sanitary and Ship Canal with the Illinois Waterway, and (b) the alternate barge route via the Calumet-Sag Channel, which connects the Lake Calumet and Calumet River harbor facilities with the Mississippi River system.

The Chicago Association of Commerce and Industry

In appearance before this Commission, this Association expressed itself as considering the Port area as: the Chicago Standard Metropolitan Area, as defined by the U. S. Bureau of the Census to include the Illinois counties of Lake, Cook, DuPage, Kane and Will, and Lake County, Indiana, plus the additional lakefront Indiana counties of Porter and LaPorte. This definition agrees with the area outlined in the enabling Act, with the addition of the 3 interior Illinois counties of DuPage, Kane and Will.

The Chicago Regional Port Commission Report of 1933

The report made by the joint commission appointed by the legislatures of Illinois and Indiana in 1931 to study and report on the establishment of an interstate port authority within the Metropolitan Area of lower Lake Michigan recommended establishment of a port authority with jurisdiction encompassing the lakefront of the 2 states, plus the 2 inland waterways connections from Lake Michigan to the Brandon Road Lock on the Illinois Waterway near Joliet, Illinois. This area was defended from the point of view of need for coordinating local port and terminal projects in the region including all waterways on which problems of port and terminal developments exist or might occur, and "to conserve unused portions of the lakefront of the 2 states for future port development, the requirements for which cannot be foreseen at the present time."

Transportation Considerations

In even the largest ports a large proportion of the traffic originates in, or is destined for, the local metropolitan area of the port, as distinguished from the tributary area or hinterland beyond the port metropolitan area. Included in the local port area and in support thereof will be railway belt lines, like the Chicago Outer Belt Line, railway switching districts and truck zones containing land routes of vital concern to the port from the standpoint of transportation service and costs in moving cargo to and from and between land and water carriers. The area as defined by the Chicago Association of Commerce and Industry and the Chicago Regional Port Commission Report of 1933 includes these transportation districts and zones within its area.

Summary

After considering the territorial definitions of the lower Lake Michigan area and other factors discussed above, the Commission accepts the area included by the Illinois counties of Lake, Cook, DuPage, Kane and Will, and the Indiana counties of Lake, Porter and LaPorte as best adapted to its purposes. The area is outlined in Map 26.

The Commission Program

The enabling legislation passed by the Illinois General Assembly in 1957 was proposed to the Governor of Indiana for passage in companion legislation by the Indiana General Assembly in the same year with the apparent intent of creating a bi-state joint commission on the problems previously referred to. The lateness in making the proposal prevented serious consideration by the Indiana Legislature as it arrived late in the session. In lieu of the legislative action contemplated by Illinois, the Governor of Indiana, motivated by a desire to cooperate but thwarted by lack of time in the session, appointed the Indiana Lake Front Study Committee (here-after referred to as the Indiana Committee) to cooperate with the Illinois-Indiana Bi-State Development and Study Commission (here-after referred to as the Illinois Commission). After approval of appointment of the members thereof, a first meeting was held on October 3, 1957. State Representative Albert W. Hachmeister, Mr. Hjalmar W. Johnson, and State Representative Nathan J. Kinnally, all of Chicago, Illinois, were elected Chairman, Vice-Chairman, and Secretary respectively of the Illinois Commission. Initial efforts were devoted to

developing a working arrangement with the Indiana Committee with the objective of jointly investigating the port situation and developing common solutions to problems as they were revealed. It became apparent early in discussion with the Indiana Committee that this could not be accomplished for the following reasons:

1. No funds were made available by the Indiana Legislature for defrayment of expenses which would be incurred by their active participation.

2. A position taken by the Indiana Committee that the Act of the Indiana Legislature of March 11, 1933 which created by statute an "Interstate Port Authority of Illinois and Indiana," and effective upon enactment by the State of Illinois of legislation having substantially similar effect, amply demonstrated Indiana's position on the problems to be studied and their desire to cooperate with Illinois on mutual port problems on a bi-state basis, and further that no serious participation on the part of Indiana was needed until Illinois settled on a position favorable to such type legislation.

3. The lack of legislative standing of the Indiana Committee with an injunction to participate in the assignment hampered development of any fervent feeling for the project, especially since the initial steps for development of Burns Harbor was imminent with the appropriation by the Legislature in 1957 of $2 million for the purchase of land subject to favorable report of the Corps of Engineers on the project. The latter situation worked against any full cooperation on the part of the members of the Indiana Committee, since any action which would be considered to adversely affect the Burns Harbor project now or in the future created alarm.

The working arrangements between the Illinois and Indiana groups resulted in sporadic participation of the Indiana Committee members in meetings, hearings and field visits scheduled by the Illinois Commission. They were advised of all meetings of the Illinois Commission.

After surveying the situation, The Illinois Commission determined to conduct its study by: initially reviewing the extensive factual material available on the subject; making familiarization trips to harbors and waterways in the lower Lake Michigan Area; visiting selected Great Lakes and sea coast ports having like type problems for orientation and exchange of ideas; holding hearings at which representatives of interested municipal, commercial and industrial agencies could present their related problems and views; and conducting such personal interviews and individual investigations in elaboration of any problem or situation as required. For the type of study and investigation to be

conducted, it was decided to employ a director of research initially with additional staff as required. The Director of Research's duties included technical and engineering appraisal with regard to the various activities of the Commission, conducting a survey of existing conditions with the Commission, and compiling material for a report.

All solutions were arrived at through discussion within the Commission.

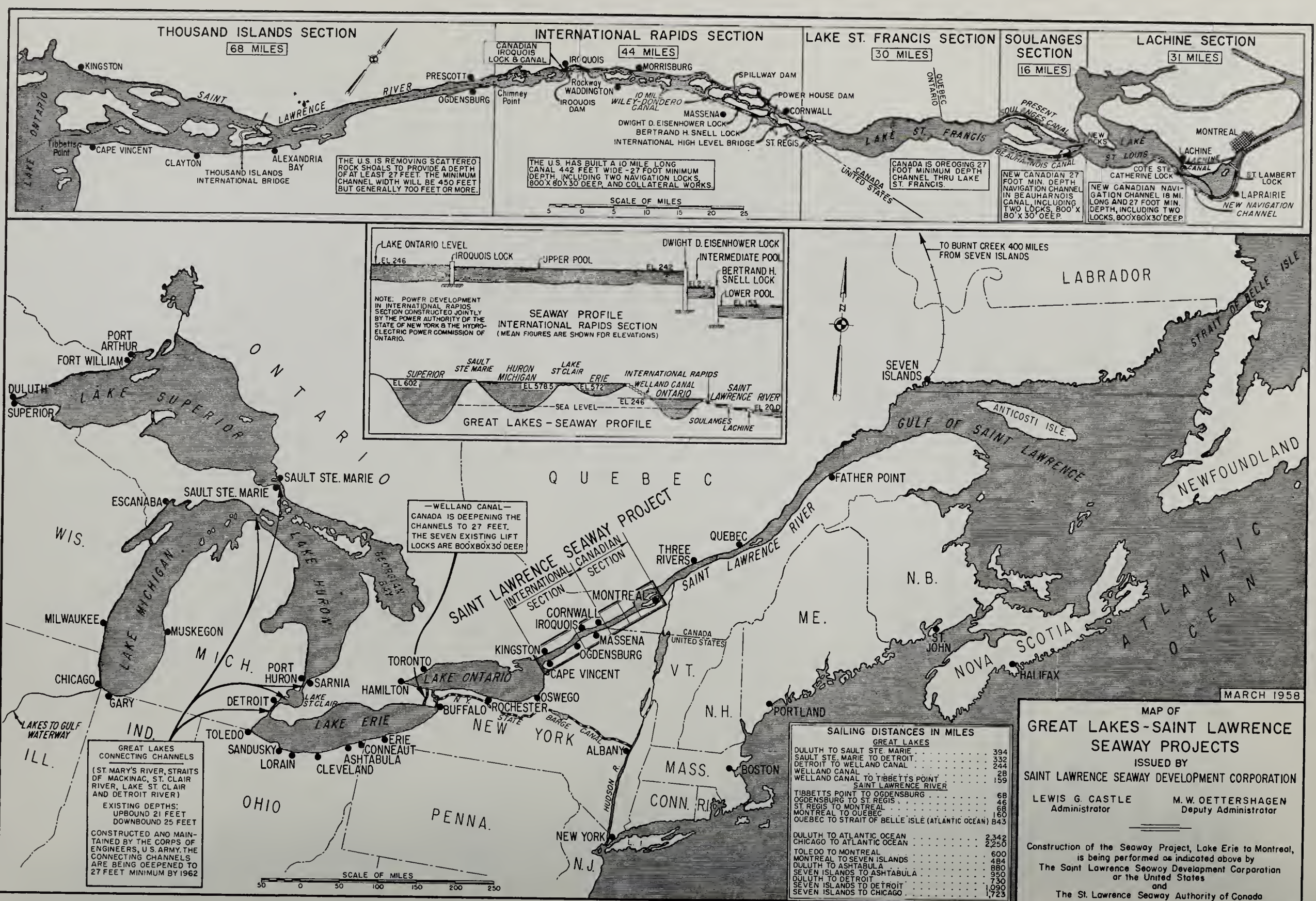
THOUSAND ISLANDS SECTION
68 MILES
KINGSTON
PRESCOTT
OGDENSBURG
SAINT LAWRENCE RIVER
LAKE ONTARIO
Tibbetts Point
CAPE VINCENT
CLAYTON
ALEXANDRIA BAY
THOUSAND ISLANDS INTERNATIONAL BRIDGE
THE U.S. IS REMOVING SCATTERED ROCK SHOALS TO PROVIDE A DEPTH OF AT LEAST 27 FEET. THE MINIMUM CHANNEL WIDTH WILL BE 450 FEET BUT GENERALLY 700 FEET OR MORE.
INTERNATIONAL RAPIDS SECTION
44 MILES
CANADIAN IROQUOIS LOCK & CANAL
IROQUOIS
MORRISBURG
Chimney Point
Rockway
WADDINGTON
IROQUOIS DAM
10 MILE WILEY-DONDERO CANAL
SPILLWAY DAM
POWER HOUSE DAM
MASSENA
DWIGHT D. EISENHOWER LOCK
BERTRAND H. SNELL LOCK
INTERNATIONAL HIGH LEVEL BRIDGE
ST. REGIS
THE U.S. HAS BUILT A 10 MILE LONG CANAL 442 FEET WIDE - 27 FOOT MINIMUM DEPTH, INCLUDING TWO NAVIGATION LOCKS, 800'X 80'X 30' DEEP, AND COLLATERAL WORKS.
SCALE OF MILES
5 0 5 10 15 20 25
LAKE ST. FRANCIS SECTION
30 MILES
QUEBEC
ONTARIO
CORNWALL
LAKE ST. FRANCIS
CANADA
UNITED STATES
CANADA IS DREDGING 27 FOOT MINIMUM DEPTH CHANNEL THRU LAKE ST. FRANCIS.
SOULANGES SECTION
16 MILES
PRESENT SOULANGES CANAL
BEAUHARNOIS CANAL
NEW LOCKS
NEW CANADIAN 27 FOOT MIN. DEPTH NAVIGATION CHANNEL IN BEAUHARNOIS CANAL, INCLUDING TWO LOCKS, 800' X 80' X 30' DEEP.
LACHINE SECTION
31 MILES
MONTREAL
LAKE ST. LOUIS
LACHINE CANAL
COTE STE. CATHERINE LOCK
ST. LAMBERT LOCK
LAPRAIRIE
NEW NAVIGATION CHANNEL
NEW CANADIAN NAVIGATION CHANNEL 18 MI. LONG AND 27 FOOT MIN. DEPTH, INCLUDING TWO LOCKS, 800'X80'X30' DEEP.
LAKE ONTARIO LEVEL
EL 246
IROQUOIS LOCK
UPPER POOL
EL 242
DWIGHT D. EISENHOWER LOCK
INTERMEDIATE POOL
BERTRAND H. SNELL LOCK
LOWER POOL
NOTE: POWER DEVELOPMENT IN INTERNATIONAL RAPIDS SECTION CONSTRUCTED JOINTLY BY THE POWER AUTHORITY OF THE STATE OF NEW YORK & THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO.
SEAWAY PROFILE
INTERNATIONAL RAPIDS SECTION
(MEAN FIGURES ARE SHOWN FOR ELEVATIONS)
SUPERIOR
SAULT STE MARIE
HURON MICHIGAN
LAKE ST CLAIR
ERIE
INTERNATIONAL RAPIDS
WELLAND CANAL ONTARIO
SAINT LAWRENCE RIVER
EL 602
EL 578.5
EL 572
EL 246
EL 20.0
SEA LEVEL
SOULANGES
LACHINE
GREAT LAKES - SEAWAY PROFILE
TO BURNT CREEK 400 MILES FROM SEVEN ISLANDS
LABRADOR
STRAIT OF BELLE ISLE
SEVEN ISLANDS
ANTICOSTI ISLE
GULF OF SAINT LAWRENCE
NEWFOUNDLAND
ATLANTIC OCEAN
FATHER POINT
QUEBEC
THREE RIVERS
SAINT LAWRENCE RIVER
N.B.
ME.
ST. JOHN
NOVA SCOTIA
HALIFAX
PORTLAND
BOSTON
MASS.
CONN. R.I.
NEW YORK
N.J.
PENNA.
OHIO
IND.
ILL.
WIS.
MICH.
ONTARIO
QUEBEC
PORT ARTHUR
FORT WILLIAM
DULUTH
SUPERIOR
LAKE SUPERIOR
SAULT STE. MARIE
ESCANABA
LAKE MICHIGAN
LAKE HURON
GEORGIAN BAY
MILWAUKEE
MUSKEGON
CHICAGO
GARY
PORT HURON
SARNIA
DETROIT
LAKE ST. CLAIR
LAKE ERIE
TOLEDO
SANDUSKY
LORAIN
CLEVELAND
ERIE
CONNEAUT
ASHTABULA
LAKES TO GULF WATERWAY
TORONTO
HAMILTON
LAKE ONTARIO
BUFFALO
ROCHESTER
OSWEGO
KINGSTON
CAPE VINCENT
MASSENA
OGDENSBURG
CORNWALL
IROQUOIS
MONTREAL
CANADA
UNITED STATES
N.Y. STATE BARGE CANAL
ALBANY
HUDSON R.
SAINT LAWRENCE SEAWAY PROJECT
INTERNATIONAL SECTION
CANADIAN SECTION
—WELLAND CANAL—
CANADA IS DEEPENING THE CHANNELS TO 27 FEET. THE SEVEN EXISTING LIFT LOCKS ARE 800'X80'X30' DEEP.
GREAT LAKES CONNECTING CHANNELS
(ST. MARY'S RIVER, STRAITS OF MACKINAC, ST. CLAIR RIVER, LAKE ST. CLAIR AND DETROIT RIVER)
EXISTING DEPTHS:
UPBOUND 21 FEET
DOWNBOUND 25 FEET
CONSTRUCTED AND MAINTAINED BY THE CORPS OF ENGINEERS, U.S. ARMY. THE CONNECTING CHANNELS ARE BEING DEEPENED TO 27 FEET MINIMUM BY 1962
SCALE OF MILES
50 0 50 100 150 200 250
SAILING DISTANCES IN MILES
GREAT LAKES
DULUTH TO SAULT STE. MARIE 394
SAULT STE. MARIE TO DETROIT 332
DETROIT TO WELLAND CANAL 244
WELLAND CANAL 28
WELLAND CANAL TO TIBBETTS POINT 159
SAINT LAWRENCE RIVER
TIBBETTS POINT TO OGDENSBURG 68
OGDENSBURG TO ST. REGIS 46
ST. REGIS TO MONTREAL 68
MONTREAL TO QUEBEC 160
QUEBEC TO STRAIT OF BELLE ISLE (ATLANTIC OCEAN) 843
DULUTH TO ATLANTIC OCEAN 2,342
CHICAGO TO ATLANTIC OCEAN 2,250
TOLEDO TO MONTREAL 600
MONTREAL TO SEVEN ISLANDS 484
DULUTH TO ASHTABULA 880
SEVEN ISLANDS TO ASHTABULA 950
DULUTH TO DETROIT 730
SEVEN ISLANDS TO DETROIT 1,090
SEVEN ISLANDS TO CHICAGO 1,723
MARCH 1958
MAP OF
GREAT LAKES - SAINT LAWRENCE SEAWAY PROJECTS
ISSUED BY
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
LEWIS G. CASTLE
Administrator
M. W. OETTERSHAGEN
Deputy Administrator
Construction of the Seaway Project, Lake Erie to Montreal, is being performed as indicated above by
The Saint Lawrence Seaway Development Corporation
of the United States
and
The St. Lawrence Seaway Authority of Canada

Figure 2.

CHAPTER II

THE ST. LAWRENCE SEAWAY

While it is important to bear in mind that the seaway, scheduled for completion in time for the opening of the 1959 navigation season, will not immediately affect more than a small percentage of the Port's total commerce, nevertheless the role played by the Seaway in the Port's future should be understood. This section will present only the general highlights of the Seaway picture, for many other sources are available to anyone who wishes a detailed description and examination of the Seaway and its impact.

Nature of the Seaway Project

Readers of this report will know the Seaway improvement will enable ocean-going ships carrying up to seven times more cargo than vessels using the old Seaway to navigate into the Great Lakes. These ships will be able to transport up to 11,000 long tons, although the average of the newly arriving ocean freighters will be closer to 8,000 tons. The 14 foot draft limitation of the old Seaway kept cargoes down to about 1,600 tons. However, many of the smaller freighters which have been employed on Great Lakes service--many of them fairly new vessels--will continue in the Great Lakes-overseas trade for some years after the enlarged Seaway opens and will constitute a not uncommon type of vessel greeting the visitor's eye at the Port of Chicago berths. These smaller ships will become more economic in the new Seaway for they will approximately double their loads over the old Seaway limitation. They have also been designed to allow the addition of a mid-section to the hull.

Instead of the old system of 22 locks on the St. Lawrence, the improved Seaway will have seven much larger and more efficient locks. The map in Figure 2 depicts the entire St. Lawrence Seaway project. The reader is referred to this map for many details of the project not mentioned in the text. Vessels can pass from Montreal at the eastern end of the Seaway to Lake Ontario at the western end--a total of 189 miles--in a much shorter time and over a much safer route. The majority of the world's freighter fleet can use the new St. Lawrence Seaway without lessening their cargo carrying capability.[1] Even the larger ocean-going ships are expected to pass through the Seaway though with some decrease in their pay load in order to meet the 25.5 foot draft limitation. Such ships can load fully to and from Montreal.

In addition to more and larger ocean-going ships, the Seaway is expected to attract a number of the large lake boats[2] heretofore limited to carrying bulk cargoes on the Great

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[1] Joseph R. Hartley, The Effect of the St. Lawrence Seaway on Grain Movements, Indiana Business Report No. 24 (Indiana: Bureau of Business Research, Indiana University School of Business, 1957), pp. 113-29.

[2] Vessels serving on the Great Lakes have customarily been termed "boats" in contrast to those vessels, or "ships," passing through the Seaway and engaging in ocean voyages.

Lakes only. These specially designed boats will be able to carry their maximum loads in the Seaway, which range up to more than 20,000 long tons. Such vessels will be able to carry grain cargoes from the Lakes to Montreal or ports further downstream for transshipment aboard ocean freighters, and then return with iron ore from Seven Islands on the Gulf of St. Lawrence (shipping point for Labrador ore from pits 400 miles north) to Lake Erie ports. Some cargo such as coal will probably be necessary for completing the circuit back to the upper Lakes from Lake Erie. However, the competition of foreign flag tramp vessels in the grain trade to Europe may put a damper on this type of grain movement.

To repay the United States and Canadian governments for their respective capital investments in the navigation part of the entire Seaway project--a total of perhaps 471 million dollars, the U. S. paying around 131 million dollars--all ships using St. Lawrence Seaway and Welland Canal will be required to pay a toll. Upon the level of the toll, as finally approved by the 2 governments, will depend the volume of cargo moving through the Seaway. From the suggested toll schedule, it does not appear that the growth of Seaway traffic will be mitigated. (See Table II, page 46). In the earlier years of Seaway operation the collections are not likely to equal the full interest, amortization, and operational charges. But once a large volume of commerce has begun to flow, it is anticipated the earlier deficits will be made up and by the end of the 50 year period there is every reason to believe the entire cost will be repaid.[1] Of course, this prospect naturally depends as well upon international trading conditions, including the assumption that the United States will not move backward toward generally higher tariffs and that the European Common Market will not develop future tariffs that seriously narrow the market for United States' exports, particularly manufactured products. It also depends on a healthy American economy. Without a generally high level of demand for capital goods and durable consumer goods, the steel industry would not bring through the Seaway as much iron ore (variously estimated at 29-52% of future Seaway traffic.)[2]

The Welland Canal

In order to permit deeper draft vessels to reach Lake Erie, Canada is dredging the 28 mile long Welland Canal between Lakes Ontario and Erie from the present controlling 25 foot depth to the Seaway standard of safe passage for vessels drawing 25. 5 feet. The 8 locks on the Canal are already of Seaway size. In contrast to the total Seaway lift of 225 feet from Montreal to Lake Ontario, the Welland Canal compensates for a 326 foot difference in height between Lakes Ontario and Erie. There is some concern that this essential connecting channel may prove a limitation on the traffic able to use the St. Lawrence Seaway. Estimates of the Welland's capacity are around 40-60 million tons annually, while the Seaway's traffic is estimated at 31-52 million tons in the first 10 years or so, perhaps 50 million tons by 1970 being a real possibility. Hartley asserts that: "The Welland Canal will restrict traffic probably by 1965 and certainly by 1970, provided that the Seaway growth potential has been correctly estimated by analysts." The Downer study

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[1] For a discussion of toll rates and repayment estimates see United States, St. Lawrence Seaway Development Corporation Tolls Committee, Report of Tolls Committee (Washington, D. C., June 12, 1958).

[2] H. C. Downer and Associates, Inc., Engineering Study of the Effects of the Opening of the St. Lawrence Seaway on the Shipping Industry, prepared for U. S. Department of Commerce, Maritime Administration (Cleveland, 1958), p. 43.

for the United States Maritime Commission stated the Welland would prevent the Seaway from handling more than 50 million short tons. In line with the Downer estimate is the projection of the Canadian Tolls Committee which contemplates 60 million tons through the Welland by 1968.[1] There is normally a several million tons larger flow through the Welland than through the St. Lawrence. In any event, the Canadians stand ready to double the 5 of the Welland's 8 locks not yet doubled as soon as they feel such a large expenditure is justified by the traffic. On this point the Downer report comments:

> "It is estimated that double-locking the 5 single locks at the Welland Canal would increase canal capacity by 30% to 40%. Lock sites have been selected and plans prepared by the Canadian Government for construction of the additional canal facilities, and work will be undertaken when the government considers it necessary."

Great Lakes Connecting Channels

Full advantage of the Seaway will not accrue to ports above Lake Erie until the Detroit and St. Clair Rivers and Lake St. Clair connecting Lake Erie and Huron, and the St. Mary's River connecting Lakes Huron and Superior have been deepened to Seaway depth. These large projects were not authorized by Congress until 2 years after passage of the Seaway bill. Estimate of the total cost is approximately $141 million.[2] The work should be finished in time to benefit the 1963 shipping season -- possibly even the 1962 season. The 98 mile link between Lakes Erie and Huron requires the bulk of the expenditure; the present controlling 21 foot depth in upbound channels must be increased to 27 feet or more in order to permit safe passage of vessels drawing 25.5 feet, and the present controlling 25 foot depth in downbound channels must be deepened similarly. (A fully deepened half-width channel may actually be available downbound past Detroit before 1963.) Thus, the Port of Chicago and other Lake Michigan ports cannot enjoy quite the same degree of vessel efficiency as Lake Erie and Ontario ports for another 3 to 5 years. This will not seriously impair the Port of Chicago's growth, however, for at least 3 reasons: (1) the Port's major tonnage arrives and departs on lake boats that either do not leave Lakes Huron and Michigan or do not draw in excess of the 23.5 foot limit on downbound traffic through the St. Marys River between Lakes Superior and Huron; (2) the majority of general cargo vessels serving Chicago would not draw in excess of the 18.5 foot upbound limit or the 23.5 foot downbound limit imposed by the St. Clair and Detroit Rivers between Lakes Erie and Huron, and (3) even larger general cargo vessels would not usually have to be "full down" while serving ports on Lakes Huron and Michigan since they have scheduled stops for receiving or discharging cargo on Lakes Erie and Ontario and at St. Lawrence River ports. Yet, in the case of tramp freights hauling bulk cargoes, particularly grain, for export, or in the case of lake boats in bulk trades to such a transshipment port as Montreal, there may be some limitation on cargo capacity until these connecting channels are further deepened. As Hartley points out:

> "A large Great Lakes boat can carry an additional 100 tons of grain for every additional inch of draft. A restriction of two feet would reduce the payload of a laker

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[1] Press release of the St. Lawrence Seaway Development Corporation, "Announcement of Recommendations for Measurement Rules and Toll Rates on the St. Lawrence Seaway" (Washington, D. C., June 18, 1958), p. 2.

[2] New York Times, June 29, 1958.

by 2,400 short tons--equivalent to a trainload of grain. But the operating costs of the lake boat would be reduced only very slightly.

"This factor may be more restrictive for seagoing ships than lake boats . . . If this proves the case, the lag in development of the connecting channels may cause a significant difference in grain rates between upper and lower lake ports in the earlier years of seaway operation."

Great Lakes Harbor Deepening

The map presented in Figure 3 indicates the prevailing harbor depths at Great Lakes ports. Only those private and public harbors with a yellow symbol can take full or nearly full advantage of the Seaway minimum depth of 27 feet. Even many of those must be dredged somewhat deeper in sections, such as entrance channels and alongside piers and wharves. The federal government is only responsible in public harbors for project depths in the channels of harbors and connecting rivers. Local governments or private interests must pay for the additional dredging that will enable vessels to moor alongside the docks. A number of the harbors on the Great Lakes will require several feet of dredging in order to prepare them to handle the largest vessels able to navigate the Great Lakes-Seaway system. But which ones among the public harbors are to be deepened at federal expense, assuming the requisite local cooperation, and to what controlling depth cannot yet be said. Certainly, many smaller ports need not handle the larger vessels plying the Lakes. Their future needs can be met adequately by small vessels drawing, say, 18.5 to 23 feet. Some of these harbors are already sufficiently deep. The Corps of Engineers has underway a large scale--50 harbors--Great Lakes Harbors Study which will determine future dredging projects throughout the area. Several interim reports have already been issued in connection with that study which recommend additional deepening. Total cost will be in the tens of millions . . . yet, there is no reason to believe these additional federal expenditures--necessary for the most advantageous use of the Seaway and Connecting Channels projects--will prove a real bottleneck. So far as the Port of Chicago is concerned, considerable dredging will be necessary--discussed in detail in a later chapter--and one Army Engineers interim report has already been issued citing the need for further dredging in Calumet Harbor."[1] This project has been approved by the Army Board of Engineers for Rivers and Harbors.

Prospective Impact of the Seaway

Physical Factors Affecting Amount of Traffic

Although the Seaway will be a dramatic improvement to the existing Great Lakes-St. Lawrence waterway system, there are certain physical limitations imposed on the potential waterborne traffic which must be kept in mind. Most prominent among these is the limitation imposed by climate: the Seaway can only be used for approximately 8 months (an average of 245 days for the years 1947-55[2]). It should be borne in mind,

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[1] U. S. Army Corps of Engineers, Chicago Engineer District, Great Lakes Harbors Study Interim Report on Calumet Harbor, Illinois and Indiana (Chicago, 1958).

[2] Downer and Associates, op. cit., p. 51.

NOTE

GREAT LAKES CONNECTING CHANNELS now being deepened from 21 feet in upbound channels and 25 feet in downbound channels to minimum depth of 27 feet in upbound and downbound channels as authorized in 1956.

ST. LAWRENCE RIVER above Montreal being improved to provide increased depth from 14 feet to minimum depth of 27 feet. ST. LAWRENCE RIVER below Montreal now deepened to 35 feet.

WELLAND CANAL being deepened from 25 feet to 27 feet.

LEGEND

IMPROVED HARBORS		PROJECT DEPTH
FEDERAL	PRIVATE	
●	○	26 FEET
●	○	25 FEET
●	○	22-24 FEET
●	○	18-21 FEET

ONTARIO
MINN.
PORT ARTHUR
TACONITE
SILVER BAY
TWO HARBORS
DULUTH
SUPERIOR
ASHLAND
KEWEENAW WATERWAY
INTERNATIONAL BOUNDARY
LAKE SUPERIOR
PRESQUE ISLE
MARQUETTE
MANISTIQUE
ESCANABA
SAULT STE. MARIE
ST. MARYS RIVER
(See Note)
SAULT STE. MARIE
PORT DOLOMITE
PORT INLAND
GRAYS REEF
STRAITS OF MACKINAC
POE REEF
CHEBOYGAN
CALCITE
ALPENA
CHARLEVOIX
MENOMINEE
STURGEON BAY
GREEN BAY
FOX RIVER
KEWAUNEE
TWO RIVERS
MANITOWOC
SHEBOYGAN
PORT WASHINGTON
MILWAUKEE
RACINE
KENOSHA
WAUKEGAN
CHICAGO
CALUMET-SAG CHANNEL
CALUMET HARBOR
INDIANA HARBOR
BUFFINGTON HARBOR
GARY
MICHIGAN CITY
ILLINOIS WATERWAY
ILLINOIS
INDIANA
LAKE MICHIGAN
FRANKFORT
PORTAGE LAKE
MANISTEE
LUDINGTON
MUSKEGON
GRAND HAVEN
HOLLAND
SOUTH HAVEN
ST. JOSEPH
HARBOR BEACH
SAGINAW RIVER
BAY CITY
SAGINAW
BLACK RIVER
PORT HURON
ST CLAIR RIVER
LAKE ST. CLAIR
DETROIT
ROUGE RIVER
DETROIT RIVER
(See Note)
TRENTON CHANNEL
MONROE
TOLEDO
SANDUSKY
HURON
LORAIN
CLEVELAND
FAIRPORT
ASHTABULA
CONNEAUT
ERIE
LAKE ERIE
INTERNATIONAL BOUNDARY
LAKE HURON
BOUNDARY
OHIO
PENNSYLVANIA
NEW YORK
BUFFALO
BLACK ROCK CHANNEL
NIAGARA RIVER
WELLAND CANAL
(See Note)
(CANADIAN)
HAMILTON
TORONTO
LAKE ONTARIO
ROCHESTER
GREAT SODUS
OSWEGO
NEW YORK STATE BARGE CANAL
QUEBEC
MONTREAL
OTTAWA RIVER
ST. LAWRENCE RIVER
INTERNATIONAL BOUNDARY
INTERNATIONAL RAPIDS SECTION
(See Note)
CANADIAN 14' NAVIGATION PROJECT
35' TO THE SEA
CHAMPLAIN
LAKE

GREAT LAKES DEEP-DRAFT HARBORS
U. S. ARMY
CORPS OF ENGINEERS

NORTH CENTRAL DIVISION

15 OCTOBER 1956

SCALE OF MILES
50 0 50 100

by-U. S. Lake Survey, Detroit-Litho. (Revised Jan. 1957)

Figure 3.

however, that the navigation season at the Port of Chicago for Seaway traffic is reduced by the travel time from the Seaway to the Port of Chicago in the springtime, in the opposite direction in the fall, leaving an average 210-day navigation season.[1] Most specialized shoreside facilities such as those primarily employed for handling general cargo in overseas movements, will lay idle during the winter season or be used--for example, by barge traffic--at much less than capacity. However, there is some compensation by virtue of the intense use of these facilities at the beginning and end of each shipping season because of shippers' and receivers' attempts to bridge the ice-bound period and thus avoid higher-cost freight movements over land.

The physical capacity of the Welland Canal and St. Lawrence Seaway will limit the amount of traffic that can engage in Great Lakes-overseas commerce. But it will be at least 6 to 8 years before the Welland's capacity is approached and in the meantime it will be possible, given the necessary desire on the part of private and public groups, to prepare for increasing the capacity of these waterways. Double locking the other 5 locks on the Welland Canal will remove any threat to full use of the new Seaway. The latter can similarly be increased in capacity--its limit being in the neighborhood of 50-55 million tons annually[2]--through adding new sets of locks, widening and deepening the channels, and so forth. Of course, further improvements to the St. Lawrence Seaway will depend in large measure on satisfactory repayment of the recent governmental expenditures by means of the user tolls.

Some concern has been expressed over the restrictions on vessel speed in the Great Lakes-St. Lawrence System compared to the open seas, and over the navigational hazards to ships in the System. Hartley investigated the former and decided that the faster cargo liners would lose no more than two days time on the round-trip between Chicago and Montreal. The slower bulk-carrying tramp vessels would lose less. Hartley goes on to say that

> "Even if the lost time were doubled because of congestion at the Welland and Seaway locks in peak traffic periods, the loss would not be so great as to discourage large ocean grain carriers and liners from using the St. Lawrence route. On the other hand, restrictions on speed will push operating costs higher than on a comparable ocean run."

Hartley also considered the question of hazards to navigation. The fog and ice hazards would not be worse than the North Atlantic. Strong St. Lawrence river currents do occur east of Quebec, but have not interferred with the development of shipping to and from Montreal. Storms and rough water are generally less severe on the Lakes than in the North Atlantic. For at least several seasons the insurance rates will be slightly higher for the Lakes-St. Lawrence System than on the ocean seas because, according to Hartley, the "navigational advantages of the seaway are somewhat more than offset by the dangers.

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[1]Tippetts-Abbett-McCarthy-Stratton, Port of Chicago Development Plan, prepared for the City of Chicago (New York, 1957), p. 29.

[2]Rough estimate given by Mr. Raymond F. Steller, Engineer of the St. Lawrence Seaway Development Corporation, in a personal interview with Mr. Joseph R. Hartley, op. cit., p. 101.

TABLE 1

RAIL AND WATER DISTANCES, IN STATUTE MILES, BETWEEN MAJOR EUROPEAN PORTS AND MIDWEST CITIES VIA PORTS OF CHICAGO, NEW YORK, BALTIMORE AND NEW ORLEANS

FROM		To STOCKHOLM Via Port of				To LE HAVRE Via Port of				To LISBON Via Port of				To NAPLES Via Port of			
		Chicago	New York	Baltimore	New Orleans	Chicago	New York	Baltimore	New Orleans	Chicago	New York	Baltimore	New Orleans	Chicago	New York	Baltimore	New Orleans
St. Paul	Rail	396	1,304	1,193	1,273	396	1,304	1,193	1,273	396	1,304	1,193	1,273	396	1,304	1,193	1,273
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	6,048	6,126	6,329	7,717	5,209	4,944	5,135	6,588	5,202	4,707	4,945	6,650	6,591	6,117	6,335	7,661
Des Moines	Rail	358	1,266	1,154	1,039	358	1,266	1,154	1,039	358	1,266	1,154	1,039	358	1,266	1,154	1,039
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	6,010	6,088	6,290	7,483	5,171	4,906	5,096	6,354	5,164	4,669	4,906	6,416	6,553	6,079	6,296	7,427
Omaha	Rail	488	1,396	1,284	1,068	488	1,396	1,284	1,068	488	1,396	1,284	1,068	488	1,396	1,284	1,068
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	6,140	6,218	6,420	7,512	5,301	5,036	5,226	6,383	5,294	4,799	5,036	6,445	6,683	6,209	6,426	7,456
St. Louis	Rail	284	1,051	920	699	284	1,051	920	699	284	1,051	920	699	284	1,051	920	699
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	5,936	5,873	6,056	7,143	5,097	4,691	5,862	6,014	5,090	4,454	4,672	6,076	6,479	5,864	6,062	7,087
Kansas City	Rail	451	1,329	1,198	873	451	1,329	1,198	873	451	1,329	1,198	873	451	1,329	1,198	873
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	6,103	6,151	6,334	7,317	5,264	4,969	5,140	6,188	5,257	4,732	4,950	6,250	6,646	6,142	6,340	7,261
Indianapolis	Rail	184	811	691	858	184	811	691	858	184	811	691	858	184	811	691	858
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	5,836	5,633	5,827	7,302	4,997	4,451	4,633	6,173	4,990	4,214	4,443	6,235	6,379	5,624	5,833	7,246
Louisville	Rail	295	869	696	747	295	869	696	747	295	869	696	747	295	869	696	747
	Water	5,652	4,822	5,136	6,444	4,813	3,640	3,942	5,315	4,806	3,403	3,752	5,377	6,195	4,813	5,142	6,388
	Total	5,947	5,691	5,832	7,191	5,108	4,509	4,638	6,062	5,101	4,272	4,448	6,124	6,490	5,682	5,838	7,135

Rail mileages from Rand McNally & Co., *Rand McNally Commercial Atlas & Marketing Guide*, 89 ed. (New York: Rand McNally & Co., 1958), p. 17. Water mileages from *ibid.*, p. 489; U. S. Navy Department: *Great Lakes Pilot.*

Collisions are more likely on the heavily traveled canals and circumscribed channels than on the open sea."

General Implications of the Seaway for Industry and Shipping in the Great Lakes Area

The advent of larger ocean-going vessels into the Great Lakes will mean a shorter route from many points on and around the Great Lakes to northwest Europe--the most heavily traveled route in the world. Table 1 gives distances from midwestern cities to 4 European ports via Chicago and major Atlantic and Gulf ports. The distance to Stockholm via the Port of Chicago is less than or equal to the New York and Baltimore routes from most of the inland cities. It is only a little farther to Liverpool through Chicago than via New York. The Chicago route is generally equal to or less than Baltimore on Liverpool distances. Both New York and Baltimore have a shorter route to Lisbon and Naples than Chicago although the proportion of the total distance absorbed by higher cost rail hauls is always higher through the seaboard ports. It is noteworthy that movement through Chicago to any of the foreign ports named is less than via New Orleans.

In effect, the Great Lakes will become America's fourth coast. At Lakes ports ships of many nations will arrive and depart regularly with both bulk and general cargoes, serving by means of the Seaway scores of overseas ports on all continents--a trade now of relatively small size. The proportion of Seaway traffic classified as general cargo is apt to be within the 10-12% range,[1] with several of the estimates assigning about 1/5 to 1/6 of the future traffic to this category.[2] The bulk cargoes will be principally upbound iron ore, other ores, petroleum and petroleum products, and pulpwood, with downbound bulk commodities being largely soft coal and grain.

A notable impact of the Seaway on Great Lakes industrial development will occur from its ability to handle much larger and more economic cargoes of bulk commodities of vital importance to industries on and near the Lakes. Chief among these will be the outward movement of grain, thus enabling midwestern agriculture to have better and cheaper access to world grain markets, and inbound movement of iron ore (mostly from Labrador via the Port of Seven Islands on the St. Lawrence Gulf). The latter will permit eastern Pennsylvania and Ohio steel mills to forego large quantities of the diminishing iron ore reserves near the western end of Lake Superior. Such reserves may then be almost entirely available to the huge aggregation of steel mills at the southern end of Lake Michigan, permitting them a longer uninterrupted period of cheap ore supply than if the Pennsylvania and Ohio steel mills continued to draw so heavily on the Lake Superior reserves. As a result, the steel industry in the Chicago Metropolitan Area will be better able to expand with the expected growth of demand for its products in the Midwest and throughout the country. The health and vitality of the steel industry is so important to the economy of the Chicago area and, indeed, to much of the Midwest, that an improved iron ore supply constitutes an immense benefit from the Seaway reconstruction.

Something similar can also be said regarding the possibilities of easier and cheaper transportation of excess grain out of the Chicago Port's tributary area to overseas destinations.

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[1] [2] United States, St. Lawrence Seaway Development Corporation, Tolls Committee, op. cit., p. 6.
[2] Downer, op. cit., p. 43; Hartley, op. cit., p. 93.

Hartley's study estimated that grain could be exported from Chicago to Europe for $0.15 to $0.20 less per bushel than from Atlantic ports. He notes that "normally the farmer, middleman, and foreign consumer would all gain from lower rates for grain transportation."[1] But Hartley goes on to assert that at least in the early years of Seaway operation the American taxpayers may benefit the most from the lower grain transportation costs. The reason? To quote Hartley again, "unless the problem of surpluses has been solved by 1960, the basic result of the Seaway will be to reduce the amount of export subsidy necessary to sell wheat and corn in Europe."[2]

It is the expected reduction in shipping costs, as applied to all classes of goods moving via the Seaway, which will provide the real stimulus to further industrialization in the Great Lakes area. Such cost reductions open up new possibilities for increased demand and, in turn, increased production. The latter may lead to new economies of scale, new increases in economic efficiency from greater size of producing units and from further specialization in the various parts of the production process. In a cumulative effect, these latter economic gains can permit further price reductions and/or quality improvements which will, in their turn, stimulate even more demand for the area's goods. It will never be possible to fully evaluate all of these multifarious effects of the Seaway ... but perhaps the chief result of interest to readers of this report will be the increased waterborne commerce at the Port of Chicago. To a survey of this commerce we shall turn next.

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[1] Hartley, op. cit., pp. 237-38.

[2] Ibid., pp. 238-39

TABLE 2

TOTAL TONNAGE OF WATER BORNE FREIGHT HANDLED AT PRINCIPAL UNITED STATES GREAT LAKES PORTS, 1957

PORT	Thousands of Short Tons		
	[a] Total	[b] Receipts	[c] Shipments
New York, N. Y. – N. J.	147,537	100,737	46,801
Delaware River, N. J. – Penn. – Del.	88,069	67,238	20,831
Hampton Roads, Virginia	80,464	14,501	65,962
New Orleans, Louisiana	56,141	24,329	31,814
Baltimore, Maryland	52,014	34,884	17,130
San Francisco, California	37,288	20,258	17,030
Chicago, Illinois-Indiana	75,929[d]	57,073	18,846
Duluth-Superior, Minn. – Wisc.	60,701	6,681	54,020
Toledo, Ohio	34,474	6,642	27,820
Detroit, Michigan	27,626	25,206	2,417
Buffalo, New York	23,487	20,960	2,527
Cleveland, Ohio	19,459	18,318	1,141
Two Harbors, Minnesota	19,173	157	19,017
Conneaut, Ohio	15,791	14,740	1,051
Calcite, Michigan	14,911 [c]	[c]	[c]
Ashtabula, Ohio	12,459	9,095	3,365
Sandusky, Ohio	8,499	68	8,431
Lorain, Ohio	8,460	5,801	2,659
Milwaukee, Wisconsin	8,411	6,955	1,456
Escanaba, Michigan	6,896 [c]	[c]	[c]
Erie, Pennsylvania	6,171	3,387	2,784
Saginaw-Bay City, Michigan	4,811	4,544	267
Port Inland, Michigan	4,569 [c]	[c]	[c]
Muskegon, Michigan	4,383	3,144	1,239
Ashland, Wisconsin	4,287	428	3,859
Green Bay, Wisconsin	3,605	3,444	161
Ludington, Michigan	3,541	2,260	1,282
Alpene, Michigan	3,523	743	2,789
Grand Haven, Michigan	3,345	1,376	1,969
Fairport, Ohio	3,187	1,817	1,370
Oswego, New York	2,576	1,285	1,291

[a] Excludes through traffic.

[b] Intraport and local traffic, when shown, is divided equally between receipts and shipments.

[c] Not separated as between receipts and shipments – probably almost all being shipments.

[d] Includes small amount of Department of Defense items for which a traffic breakdown is not available.

SOURCE: United States, Department of the Army, Corps of Engineers, *Waterborne, Commerce of the United States, Calendar year 1957, Part 3: Waterways and Harbors, Great Lakes* (Detroit, 1958), *passim; idem, Part 1: . . . Atlantic Coast* (Detroit, 1958), pp. 146, 190-96, 240, and 287; *idem, Part 2: . . . Gulf Coast . . .* (Detroit, 1958); and *idem, Part 4: . . . Pacific Coast . . .* (Detroit, 1958), p. 94.

CHAPTER III

PRESENT AND POTENTIAL WATERBORNE COMMERCE

This chapter will make an appraisal of the present volume and pattern of cargo handled by the Port of Chicago and, for comparison, by other Great Lakes and coastal ports. The particular role of general cargo as against bulk cargo will be highlighted. Finally, the future prospects will be examined. The latter will use the best estimates now available, which does not include the large scale U. S. Army Corps of Engineers study on future commerce of the Port of Chicago. When the Engineers' report is completed in the next few months a better set of figures for planning future port terminal requirements may be available. Calculating the expected volume of Port commerce 6 or 11 years hence, or even in 1960, is fraught with unknowns and the Commission does not pretend to have done more than summarize and employ estimates made by other competent parties.

Tributary Area for the Port as Generally Defined Geographically

The volume of waterborne commerce originating or terminating at the Port of Chicago will, for the most part, be generated by industrial operations located in the immediate Port zone. For example, approximately 43% of the Port's total 1957 tonnage was absorbed by the iron ore (and concentrates) and crushed limestone receipts of the steel companies. Nevertheless, an important segment of the Port's traffic will continue to originate or terminate in territory outside of the Metropolitan Area. In the Port's hinterland are located not only important coal and agricultural producing areas but also many important industrial centers such as Indianapolis, Rock Island-Moline-Davenport, St. Louis, Kansas City, Omaha, Minneapolis-St. Paul, and so on. These manufacturing and commercial centers will find it economically advantageous to ship and receive many commodities via the Port of Chicago.

What territory comprises the "hinterland" or "tributary area" of the Port? The definition of such an area may take into account a very broad notion of "economic or trading region," or a more limited concept of "competitive freight rate zone." As an example of the former, the Chicago Association of Commerce and Industry pictures the Chicago Metropolitan Area as the focal point for economic activity throughout the 13 states of the North Central United States.[1] In this large area, the Association points out, can be found 31 per cent of the country's population, 28% of the manufacturing plants, 39% of the dollar volume of manufacturing. Out of the region flows 57% of the machinery made in the country, 55% of transportation equipment, 44% of primary metal products and 31% of all electrical machinery. Altogether, there are more than 80,000 manufacturing plants in

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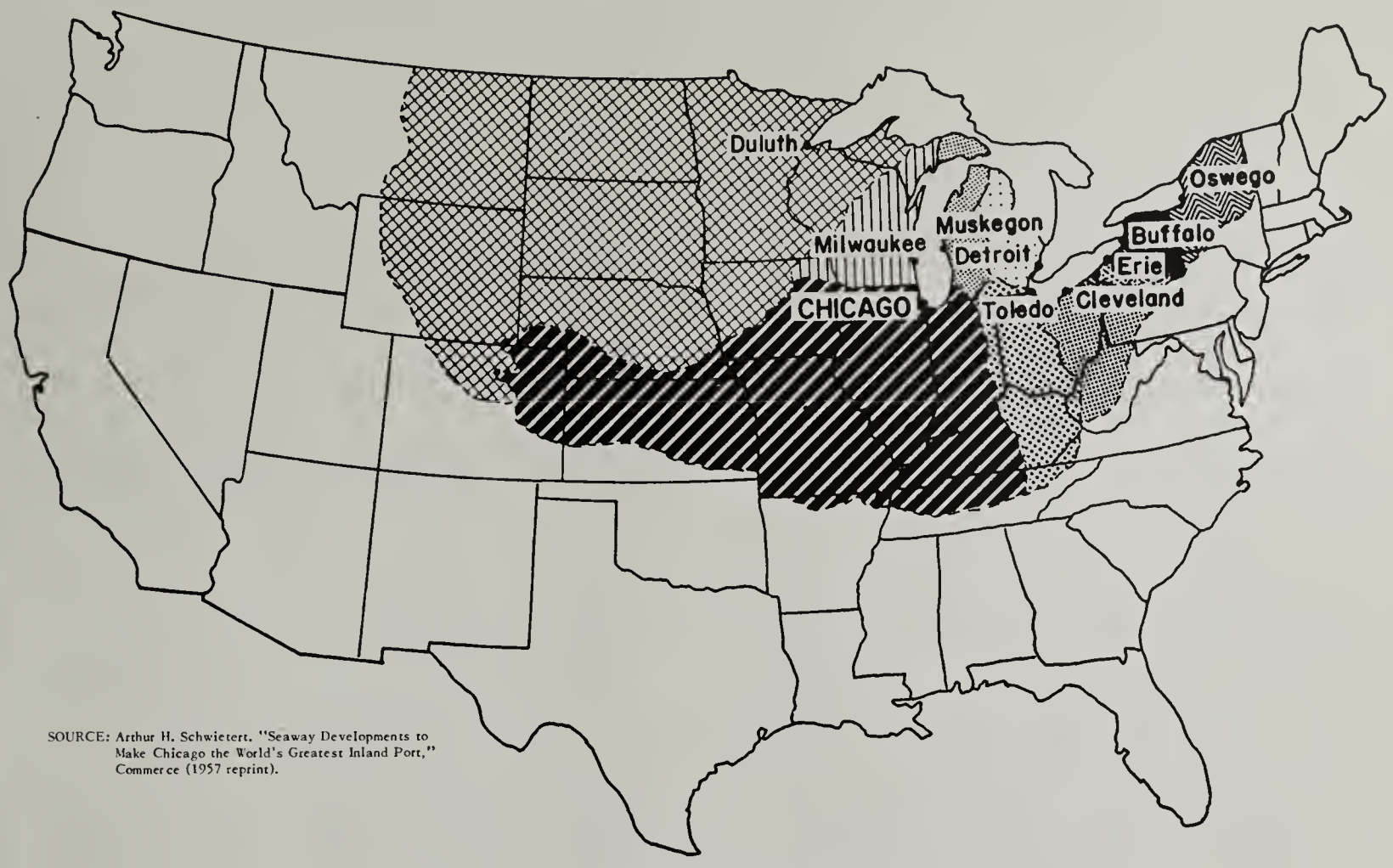
[1] Defined as the states of Illinois, Indiana, Iowa, Minnesota, Wisconsin, Michigan, Ohio, Kentucky, Missouri, Kansas, Nebraska, South Dakota and North Dakota.

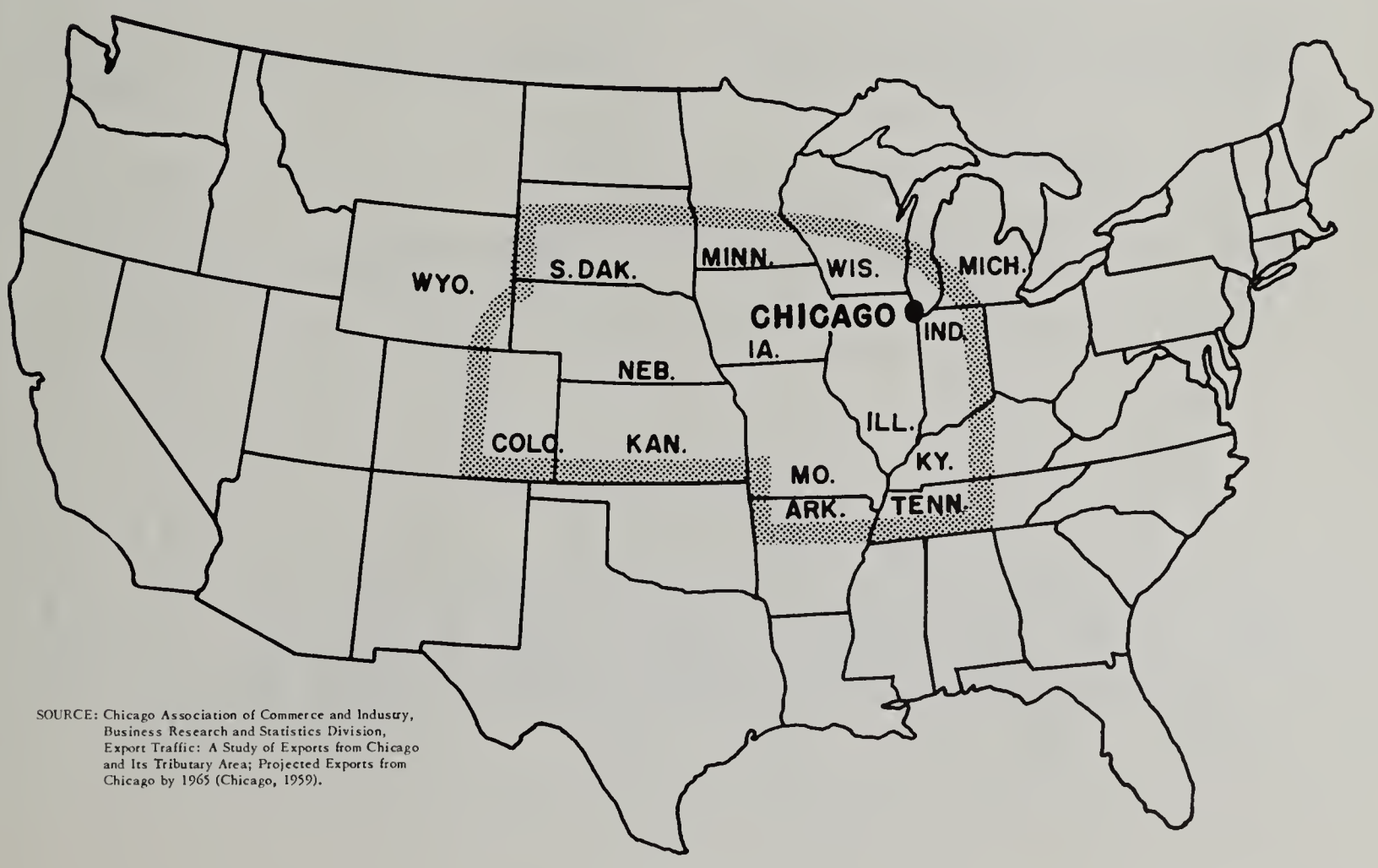
AREAS OF FREIGHT RATE ADVANTAGE FOR MAJOR GREAT LAKES PORTS



SOURCE: Arthur H. Schwietert. "Seaway Developments to Make Chicago the World's Greatest Inland Port," Commerce (1957 reprint).

Figure 4.

CHICAGO'S TRIBUTARY AREA OF FREIGHT RATE & SHIPPING ADVANTAGE



SOURCE: Chicago Association of Commerce and Industry, Business Research and Statistics Division, Export Traffic: A Study of Exports from Chicago and Its Tributary Area; Projected Exports from Chicago by 1965 (Chicago, 1959).

Figure 5.

TABLE 3

WATERBORNE TRAFFIC OF THE PORT OF CHICAGO 1957
(In Thousands of Short Tons)

Movement	Total Port of Chicago	Percentage of Total Traffic	Total Illinois Portion	Chicago Harbor	Chicago River Main & No. Branch	Chicago River South Branch	Chicago Sanitary & Ship Canal	Calumet-Sag Channel
Total								
Originated and Terminated	75,929 a]	100.0	42,509 c]	404	1,650	2,208	11,621	1,886
Percent	100.0		56.0	0.5	2.2	2.9	15.3	2.5
Foreign Total	3,196	4.2	2,201	265	6	50	55	–
Imports Total	1,663	2.2	821	248	6	50	5	–
Overseas	95	.1	94	19	–	–	.042	–
Canadian	1,567	2.1	728	228	6	50	5	–
Exports Total	1,533	2.0	1,379	18	–	–	51	–
Overseas	115	.2	115	18	–	–	–	–
Canadian	1,418	1.9	1,265	.001	–	–	51	–
Domestic Total	72,723	95.8	40,302	138	1,644	2,157	11,565	1,886
Coastwise Total	37	b]	37		–	34	3	–
Receipts	36	b]	36	–	–	34	2	–
Shipments	2	b]	2	–	–	–	2	–
Lakewise Total	53,062	69.9	21,904	–	160	6	220	326
Receipts	39,397	51.9	14,826	–	160	–	24	–
Shipments	13,664	18.0	7,078	–	–	6	197	326
Internal Total	16,464	21.7	16,089	138	917	1,884	8,520	1,109
Receipts	14,397	19.0	14,261	134	917	1,739	7,720	1,001
Shipments	2,067	2.7	1,828	5	–	144	800	108
Intraport				–				
Receipts & Shipments	2,495	3.3 .9	1,623 c]	–	538	227	2,248	448
Local	665		649	–	29	7	575	3
Thru Traffic	11	100.0	11	1,457	1,229	2,609	7,967	4,202
Upbound	8	73.3	8	606	392	2,042	6,715	3,332
Downbound	3	26.7	3	891	637	567	1,252	869

a] Includes small additional amount of Department of Defense and special category items for which a traffic breakdown is not available.
b] Less than 0.10%
c] Adjusted to eliminate duplication from counting some intraport tonnages as both receipts and shipments.

TABLE 3 – (Cont.)

WATERBORNE TRAFFIC OF THE PORT OF CHICAGO 1957

(In Thousands of Short Tons)

Movement	Lake Calumet	Calumet Harbor & River	Waukegan	Total Indiana Portion	Indiana Harbor	Buffington Harbor	Gary Harbor	Michigan City Harbor
Total								
Originated and Terminated	515a]	26,638a]	82	33,420	20,828	1,626	10,769	197a]
Percent	0.7	35.1	0.0	44.0	27.4	2.1	14.2	0.3
Foreign Total	104	1,719	–	995	995	–	–	–
Imports Total	40	473	–	842	842	–	–	–
Overseas	37	38	–	2	2	–	–	–
Canadian	3	435	–	840	840	–	–	–
Exports Total	64	1,247	–	154	154	–	–	–
Overseas	53	44	–	–	–	–	–	–
Canadian	11	1,203	–	154	154	–	–	–
Domestic Total	410	24,913	82	32,420	19,833	1,626	10,769	193
Coastwise Total	–	–	–	–	–	–	–	–
Receipts	–	–	82	–	–	–	–	–
Shipments	–	–	–	–	–	–	–	–
Lakewise Total	68	21,043	–	31,158	18,729	1,626	10,613	189
Receipts	32	14,528	–	24,572	12,614	1,396	10,561	–
Shipments	36	6,515	–	6,586	6,115	230	52	189
Internal Total	331	3,190	–	375	303	–	69	3
Receipts	254	2,496	–	136	135	–	1	–
Shipments	77	70	–	239	167	–	70	3
Intraport Receipts & Shipments	11	647	–	871	785	–	87	–
Local	–	34	.270	17	16	–	–	.205
Thru Traffic	–	748	–	–	–	–	–	–
Upbound	–	613	–	–	–	–	–	–
Downbound	–	135	–	–	–	–	–	–

a] Includes small additional amount of Department of Defense and special category items for which a traffic breakdown is not available.

Source: United States, Department of The Army, Corps of Engineers, Waterborne Commerce of The United States, Calendar year 1957, Part 3: Waterways and Harbors, Great Lakes (Chicago, 1958) *passim.*

the 13-state area, of which over 15,000 are located in the Chicago Metropolitan Area.[1]

A good example of a tributary zone as defined by freight rate considerations appeared in an article by another Chicago Association of Commerce writer, Mr. Arthur H. Schwietert.[2] The map presented in that article has been reproduced herein in Figure 4. It shows the tributary areas of all leading Great Lakes ports. Within each shaded area the freight rate structure is, by and large, favorable for the port concerned. That is, the rates either are lower to the port concerned or they are equal to rates for competitive ports. The rates are based for the most part on a combination of rail and water transportation to and from foreign ports. Thus, they should be primarily thought of in regard to general cargo in overseas commerce and not to domestic traffic, especially not to domestic bulk commodities. Outside each port's shaded zone there is an element of disadvantage, for the freight rates to some other ports will in general be lower. But, of course, a port may still attract much traffic from areas in some other port's tributary area.

Many other factors besides rates enter into shippers' decisions on port utilization. Suitable cargo handling facilities; sufficiently frequent steamship sailings; adequate forwarding, brokers and customs services; sufficient international banking and insurance services; and other matters will also be taken into account in freight routings. For example, the expected more frequent sailings from the Port of Chicago to overseas points as compared to Duluth-Superior will partially offset freight rate advantages which Duluth-Superior may possess in many states west of Chicago. The Port of Chicago has a shipping advantage--even though freight rates are somewhat higher--because of its superb location as the terminus of many trunk line western railroads over which some export goods are known to move. The enlarged tributary area as based on these latter shipping advantages is shown in Figure 5. The geographic extent of the tributary zone markedly increases when such shipping advantages of the Port are considered in addition to freight rate advantages. The northern boundary of the zone rises from Southern Nebraska-Central Iowa-Northern Illinois to Northern South Dakota-Southern Minnesota-Central Wisconsin. More of Colorado, Wyoming and Kansas is also included. The additional area is served directly to and from Chicago by such railroads as the Chicago, Burlington and Quincy and the Chicago and Northwestern.[3]

Chicago's tributary area as shown in Figure 4 includes an area of about 330,000 square miles, containing over 24 million persons (1/7 of the nation's total population). Nearly 1/4 of the nation's primary metal industry is in this area. Assuming that the Port's hinterland experiences a rate of economic growth at least equal to the national average

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[1] Facts in this paragraph are from the statement of Thomas H. Coulter, Chief Executive Officer, Chicago Association of Commerce and Industry, "Chicago and the Midwest--a Multi-billion Dollar Market," paper given at the Canadian-American Trade and Industry Conference (Chicago, November 12, 1958), pp. 2-3.

[2] Schwietert, Arthur H., "Seaway Developments to Make Chicago the World's Greatest Inland Port," Commerce, (1957 reprint).

[3] Chicago Association of Commerce and Industry, Business Research and Statistics Division, Export Traffic; A Study of Exports from Chicago and Its Tributary Area; Projected Exports from Chicago by 1965 (Chicago, 1959) p. 7.

(as projected by the federal government and private groups), the output of goods and services should grow approximately 35% by 1965 and 85% by 1975. "This future development of the hinterland will be reflected in similar increases in the shipping activity generated by the area."[1]

Total Waterborne Commerce at Great Lakes Ports

In terms of total tonnage the Port of Chicago leads all other Great Lakes ports, as the figures of Table 2 demonstrate. For comparison 6 principal Atlantic, Gulf and Pacific ports are also given at the top of Table 2. Chicago ranks fourth among all the nation's ports. The second ranking Great Lakes port is Duluth-Superior, with its large volume of iron ore and grain shipments. Like Detroit, Buffalo, Cleveland and a few other Lakes ports, Chicago is primarily a receiver rather than a shipper of waterborne cargo.

A full picture of Chicago's waterborne commerce can be gained from inspection of Tables 3 and 4. The first of these shows the 1957 composition of the Port's traffic according to type of movement and the harbor or waterway handling the cargo. From consulting the vertical column on percentages according to type of movement (column 3) it can be seen how relatively small a share of the Port's traffic enters into overseas trade or into any foreign trade (including Canadian). The Port's chief function is the receipt of lakewise and inland waterway cargoes and, secondarily, the shipment of lakewise cargo (mainly coal and petroleum products). Of course, if value rather than tonnages were tabulated, the share of the total commerce from overseas and Canadian trade would be significantly larger. All the overseas traffic is considered general cargo, and this type of freight has a much larger valuation per ton than any type of bulk cargo. According to the detailed study conducted by the Chicago Association of Commerce[2], general cargo moving out of the Port's tributary area in 1956 averaged a value of $1,100 per ton while bulk cargo was $55 per ton--the former thus being 20 times more valuable than the latter.

The relative role of the Port's various harbors and waterways can also be understood by looking at Table 3. The percentage of the total traffic actually terminating or originating in these different sections of the port during 1957 is given on the second line in the body of the Table. All the Illinois portions have approximately 56% of the total tonnage, with Calumet Harbor and River by far the largest individual component at 35.1%. The bulk of Indiana's tonnage is received and shipped by Indiana Harbor, which represents 27.4% of the total in 1957.

The growth of the Port's total annual volume of cargo is illustrated by Figure 6 which runs from 1910 through 1957. These totals are broken down by harbor and waterway in Table 4 for the years 1946-1957. Figure 6 indicates a long-term upward trend in total Port tonnage. Evidently the total would fall between 85 and 95 million tons by 1965, and between 96 and 110 million tons by 1970, if the rate of growth since 1935 continued.

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[1] This paragraph and the quotation are from Tippetts-Abbett-McCarthy-Stratton, op. cit., pp. 4-6.

[2] Export Traffic, op. cit.

TABLE 4

WATERBORNE TRAFFIC AT PORT OF CHICAGO* BY HARBORS AND WATERWAYS, 1946 – 57

(in thousands of short tons)

Year	Chicago Harbor	Chicago River, Main & North Branch	Chicago River, South Branch	Chicago Sanitary & Ship Canal	Calumet-Sag Channel	Lake Calumet	Calumet Harbor and River	Waukegan	Indiana Harbor	Buffington Harbor	Gary Harbor	Michigan City Harbor
1946	1,259	1,848	2,815	5,171	1,094	0	13,893	275	11,235	876	8,630	**
1947	1,602	2,180	3,581	8,082	1,780	0	19,523	220	13,152	924	8,788	**
1948	1,355	2,304	3,876	9,627	2,093	0	19,064	159	13,894	1,101	8,466	**
1949	1,358	2,181	3,670	9,656	2,776	0	17,566	83	14,042	1,111	8,508	**
1950	1,239	2,233	4,338	12,046	3,224	92	21,909	91	15,697	1,140	9,360	**
1951	1,210	2,307	3,977	13,474	3,134	64	23,742	97	16,133	1,274	9,218	**
1952	1,576	2,356	4,191	13,095	3,329	161	19,595	77	15,226	1,139	7,030	**
1953	1,797	2,639	5,076	14,925	3,576	163	23,865	73	20,045	1,411	9,643	**
1954	1,884	2,598	4,595	14,606	3,763	243	18,592	70	17,408	1,415	9,464	**
1955	2,187	2,870	4,898	16,486	4,600	159	24,786	83	20,675	1,291	10,555	**
1956	1,461	2,763	4,835	18,704	5,668	141	27,435	84	19,449	1,492	8,766	**
1957	1,901	2,880	4,817	19,588	6,088	515	27,386	82	20,828	1,626	10,769	197

* Including Waukegan and Michigan City Harbors.
** Less than 500 short tons.

SOURCE: Except for Waukegan and Michigan City Harbors, 1946-55 figures are from Chicago Plan Commission, *The Calumet Area of Metropolitan Chicago* (Chicago, 1956), p. 28. Waukegan and Michigan City figures, 1946-57 and all other 1956-57 figures from United States, Department of the Army, Corps of Engineers, *Waterborne Commerce . . . Great Lakes* (Detroit, 1955, 1956, 1957).

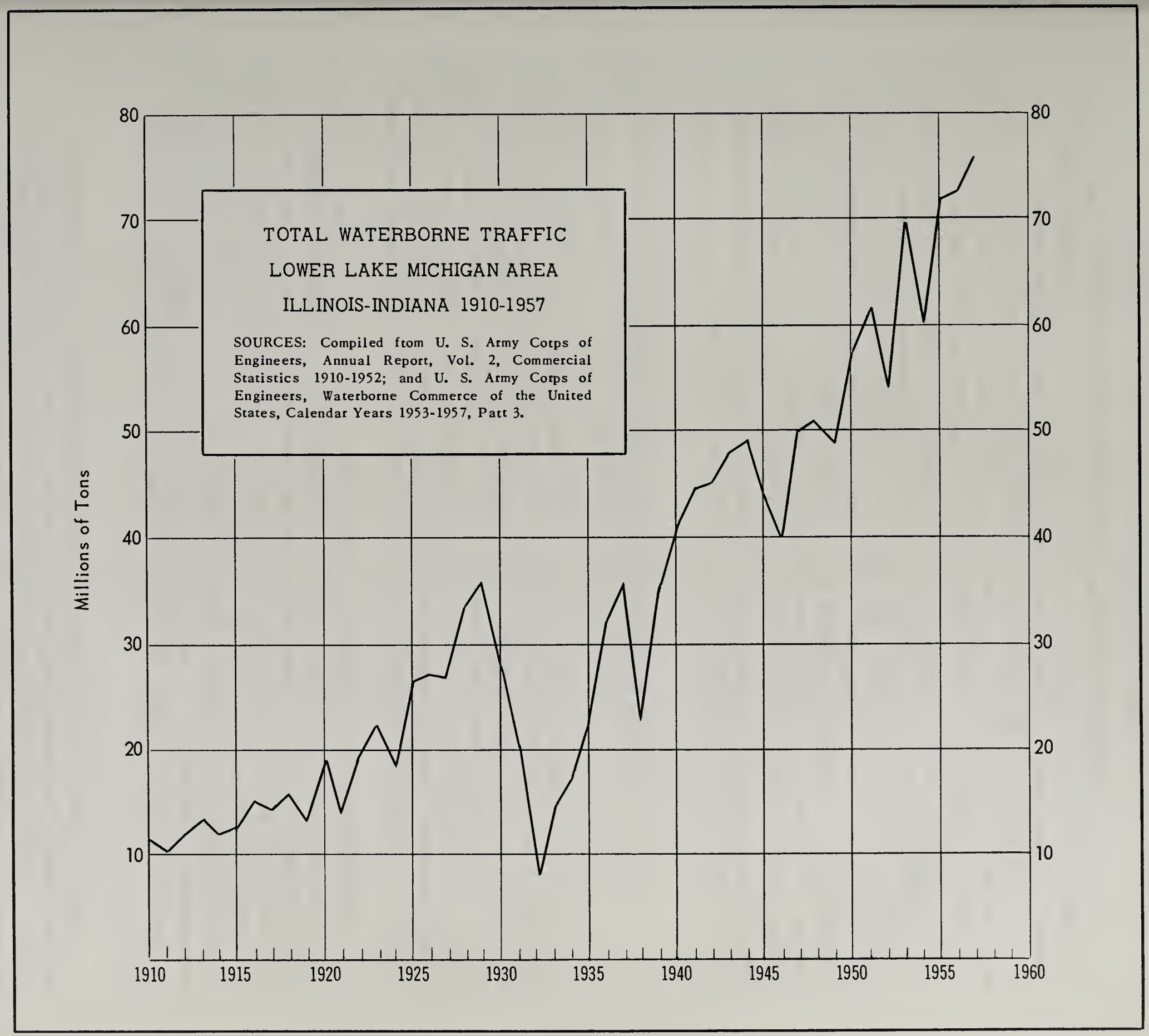
TOTAL WATERBORNE TRAFFIC
LOWER LAKE MICHIGAN AREA
ILLINOIS-INDIANA 1910-1957
SOURCES: Compiled ftom U. S. Army Cotps of Engineers, Annual Report, Vol. 2, Commercial Statistics 1910-1952; and U. S. Army Cotps of Engineers, Waterborne Commerce of the United States, Calendar Years 1953-1957, Patt 3.
Millions of Tons
80
70
60
50
40
30
20
10
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960

Figure 6.

These estimates are purely conjectural and are not a sufficient basis for port planning; nevertheless, there is every reason to believe that the Port's total annual volume of cargo will continue increasing on the average, unless a major depression occurs.

The economic vitality of the Chicago Metropolitan Area and its hinterland suggests continued growth in the region's economy, which cannot but help to generate additional demands for water transportation on the Lakes and through the inland waterways. Indeed, the commerce moving by the latter routes has been undergoing a rapid increase in recent years, as the columns for the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel in Table 4 demonstrate. With completion of the Calumet-Sag widening in the early 1960's, a steady increase in the Channel's annual tonnage is certain. Estimated tonnage of 4.5 million short tons for the Calumet-Sag Channel after widening has already been exceeded (6.1 million tons in 1957). The estimate of 18 million tons within 25 or 30 years after completion of the Cal-Sag modification appears--in the face of actual tonnages now being moved--to be ultra-conservative and probably will be reached much sooner than forecast. This development will permit a larger percentage of the coal consumed by the Chicago area to travel via barge on the inland waterways. The share of the Port's total commerce arriving and, to a lesser extent, departing via the Sanitary and Ship Canal and Calumet-Sag Channel will likely increase over the next 10-15 years.

Present and Potential General Cargo Commerce at the Port of Chicago

In order to compare the Port with other Great Lakes ports, only a limited part of the total general cargo movement can be studied. This portion is that moving in direct Great Lakes-overseas trade. Table 5 gives a tabulation of this trade for all Great Lakes ports having a significant volume of such traffic in 1957. In that year the Port of Chicago, with 210,000 tons, had more than 3 times as much total overseas commerce as the second-ranking United States port, Detroit. Milwaukee, Green Bay and Cleveland each had comparable amounts of this trade as the third, fourth and fifth ranking United States Great Lakes ports.

Actually the general cargo listed in Table 5 for the Port of Chicago is only 6% of the Port's total general cargo. Another 8% moves in United States-Canadian trade, 26% more in United States-Great Lakes traffic, and the remainder by barge on the inland waterways serving the Port. Primary interest lies, however, in the deep draft general cargo, for that is the type of water movement which requires special berths and supporting facilities, of which some are publicly owned. Barges use berths provided for deep draft ships while those vessels are not in port, or they can lie alongside deep draft vessels at their berths or, more commonly, they make use of special barge docks built by private firms for their own use.

Table 6 presents the breakdown, by tonnage and percentage, for the principal commodities classified as general cargo entering and leaving the Port in 1957 by deep draft vessels. The deep draft general cargo represents, as already noted, roughly 40% of all the general cargo handled at the Port of Chicago. It should be recognized that some arbitrariness exists in the distinctions between "general" and "bulk" commodities. In

TABLE 5

DIRECT GREAT LAKES-OVERSEAS CARGO HANDLED BY PRINCIPAL UNITED STATES AND CANADIAN PORTS, 1957

(Short Tons)

PORT	TOTAL	IMPORTS	EXPORTS
Chicago, Illinois-Indiana	210,264	95,430	114,834
Toronto, Ontario	197,985	113,818	84,167
Sarnia, Ontario	69,139	n.a.	n.a.
Detroit, Michigan	68,626	37,986	30,640
Milwaukee, Wisconsin	56,433	17,455	38,978
Green Bay, Wisconsin	51,076	9,117	41,959
Cleveland, Ohio	48,981	19,624	29,357
Hamilton, Ontario	38,680	23,542	15,138
Toledo, Ohio	31,463	15,220	16,243
Muskegon, Michigan	17,494	7,310	10,184
Sheboygan, Wisconsin	10,576	10,576	. . . .
South Haven, Michigan	10,159	10,159	. . . .
Buffalo, New York	8,188	2,329	5,859
Duluth-Superior, Minn.-Wisc.	2,661	2,661	. . . .
Port Huron, Michigan	2,450	2,450	. . . .

SOURCE: Compiled from U. S. Army, Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year 1957. Part 3, Waterways and Harbors, Great Lakes* (Detroit, 1958); Great Lakes Commission, Great Lakes News Letter, Vol. III (November, 1958 and January, 1959).

TABLE 6

PRINCIPAL COMMODITIES MOVING AS DEEPDRAFT GENERAL CARGO TO AND FROM THE PORT OF CHICAGO, 1957

Type of Freight Movement	RECEIPTS			SHIPMENTS		
	Commodity	1,000 Short Tons	Per Cent of Total	Commodity	1,000 Short Tons	Per Cent of Total
Entire Port Traffic	Newsprint	311	37.2	Building cement	237	42.6
	Pig iron	139	16.6	Pig iron	93	16.7
	Building cement	134	16.0	Rolled & finished steel mill prod.	72	12.9
	Iron & steel scrap	81	9.7	Edible animal oils & fats	35	6.3
	Rolled & finished steel mill prod.	63	7.5	Industrial chemicals	22	4.0
	Total Receipts	836	100.0	Total Shipments	556	100.0
Overseas	Liquors & wines	19	20.0	Edible animal oils & fats	35	30.4
	Rolled & finished steel mill prod.	16	16.8	Raw hides & skins	20	17.4
	Glass & glass products	7	7.4	Meat & meat products	12	10.4
	Tools & basic hardware	5	5.3	Rolled & finished steel mill prod.	5	4.3
	Fruits & preparations	4	4.2	Miscellaneous commodities	4	3.5
	Total Imports	95	100.0	Total Exports	115	100.0
Canadian	Newsprint	277	98.6	Petroleum products	5	62.5
	Animal feeds [c]	3	1.1	Pig iron	3	37.5
	Paper & related products	[a]	[b]	Miscellaneous low valued	[a]	[b]
	Inedible animal products	[a]	[b]	Construction & mining machinery	[a]	[b]
	Industrial machinery & parts	[a]	[b]			
	Total Imports	281	100.0	Total Exports	8	100.0
Coastwise and Lakewise	Pig iron	139	30.2	Building cement	237	54.7
	Building cement	133	28.9	Pig iron	90	20.8
	Iron & steel scrap	81	17.6	Rolled & finished steel mill prod.	67	15.5
	Rolled & finished steel mill prod.	41	8.9	Industrial chemicals	22	5.1
	Newsprint	34	7.4	Ferrous castings & forgins	13	3.0
	Total Receipts	460	100.0	Total Shipments	433	100.0

[a] Less than 500 tons
[b] Less than 0.20%
[c] Not elsewhere classified
SOURCE: United States, Department of the Army, Corps of Engineers, *Waterborne Commerce, Calendar Year 1957, Part 3: Waterways and Harbors, Great Lakes* (Detroit, 1958), pp. 41-70.

principle, general cargo includes goods shipped in a package--such as barrel, box, bag, drum, etc. --or as an individual unit. They are normally processed, manufactured, or semi-manufactured commodities. In contrast, bulk goods can normally be handled by specially built loading and unloading equipment. Such commodities can usually flow by gravity into vessels and barges and can be pumped, blown, scooped or otherwise removed from bulk carriers in high volume per unit of time.

Canadian newsprint, pig iron and building cement are the principal general cargo commodities received at the port in deep draft vessels; building cement is also the commodity shipped from the Port in largest volume (most of it moving from Buffington Harbor in Indiana). The majority of deep draft general cargo receipts and shipments moved in lakewise traffic. The greatest number of different commodities moved in overseas traffic.

Potential General Cargo Commerce at the Port of Chicago

Several different estimates of the magnitude of this commerce have been attempted by various public and private groups. Overseas general cargo is usually projected separately, for that is the commerce expected to take greatest advantage of the Seaway. A private engineering firm compiled projected tonnages of general cargo expected to move through the Seaway.[1] These estimates came from the St. Lawrence Seaway Development Corporation, the Canadian Department of Trade and Commerce, the Great Lakes-St. Lawrence Association, and the U. S. Department of Commerce. In order to estimate Chicago's share of the Seaway general cargo traffic, the average percentage of total United States-overseas traffic handled by the Port of Chicago in 1955-57 (42%) was applied to the average of the aforementioned overseas general cargo estimates. This procedure yielded an estimate for 1970 of 1.7 million short tons of Great Lakes-overseas general cargo entering and leaving the Port of Chicago. This is within the 522,000-2,610,000 short tons range which can be calculated from figures given by Professor Harold Mayer.[2] (Professor Mayer's figures are not for any particular year, but relate to those years after the Seaway opens in which the traffic has gradually built up.)

Another set of overseas general cargo estimates was produced by the private firm hired by the City of Chicago whose report was published in August, 1957.[3] Hereafter this report will be called "Study 'A'". This firm studied the volume of imports and exports departing and arriving from overseas through the Port of Chicago's tributary area as defined in Figure 4. They estimated that the percentage of the total volume of this overseas traffic moving via the Port would rise from about 17-20% in the immediate pre-Seaway years up to 25% in 1960 and thence to 50% in 1975. This procedure yielded an estimate of 380,000 short tons in 1960, 700,000 in 1965 and 1,500,000 in 1975. Straight interpolation would suggest about 1.1 million short tons in 1970. (These figures exclude any allowance for overseas commerce from Indiana Harbor, but the addition would be negligible as in 1955 it was only 1.9% of all other overseas traffic from the Port, and in 1957, 0.83%.)

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[1] Downer, op. cit., pp. 39-40, 43.

[2] Harold M. Mayer, The Port of Chicago and the St. Lawrence Seaway, Chicago: University of Chicago Press, 1957. pp. 99-100.

[3] Tippetts, et al., op. cit., pp. 10-12.

TABLE 7

ESTIMATES OF FUTURE DEEP DRAFT GENERAL CARGO TRAFFIC OF THE PORT OF CHICAGO AS MADE BY TWO RECENT STUDIES*

(thousands of short tons)

Year	General Cargo Category for which an Estimate was Made	Receipts		Shipments	
		Study A	Study B	Study A	Study B
1960	Canadian and lakewise	40	–	90	–
	Overseas (port total)	150	–	230	–
	Total at public terminals	190	–	320	–
	Total, Canadian and overseas (excludes any lakewise)	–	–	–	490
1965	Canadian and lakewise	50	–	100	–
	Overseas (port total)	250	–	450	–
	Total at public terminals	300	–	550	–
	Total, Canadian and overseas (excludes any lakewise)	–	–	–	630
1975	Canadian and lakewise	60	–	120	–
	Overseas (port total)	500	–	1000	–
	Total at public terminals	560	–	1120	–
	Total, Canadian and overseas (excludes any lakewise)	–	–	–	–

Note: Dashes (–) indicate no estimate was made.

*Study A is Tippetts-Abbett-McCarthy-Stratton, *Port of Chicago Development Plan* (New York, 1957), p. 13. Study B is Chicago Association of Commerce and Industry, *Export Traffic*, A Study of Exports from Chicago and its Tributary Area; Projected Exports from Chicago by 1965 (Chicago, 1959), p. 33.

In addition to deep draft overseas general cargo, Canadian and lakewise general cargo must also be taken into account. The authors of Study A figured it was "reasonable to assume an approximate growth of 25% by 1965 and 50% by 1975 in the Canadian and lakewise cargo movements to and from public piers."[1] Their results were 130,000 short tons in 1960, 150,000 in 1965, and 180,000 in 1975. Interpolating for 1970, 160,000 tons could be expected in that year.

The Study A columns of Table 7 present all the estimates made by the Tippets et al. firm for the City of Chicago. The two figures in the Study B columns are export estimates recently made by the Chicago Association of Commerce and Industry. It can be seen from the table that the two sets of estimates given in Studies A and B are not for exactly the same categories of general cargo. However, the foreign shipments estimates for 1960 and 1965 of Study B are almost conceptually identical to the overseas shipments of Study A inasmuch as separate statistical isolation of exports to Canada showed the difference to be relatively small (around 10,000 tons). The much larger estimated volume of foreign shipments in Study B stems largely from the following important differences over Study A in the procedure used to compile the data: (1) a larger tributary area was employed, corresponding to Figure 5; (2) better survey coverage of shippers within the tributary area, in contrast to contact only with rail carriers in Study A; and (3) the assumption put before shippers--when requesting an estimate of their future shipments through the Port of Chicago--that the Port would enjoy export rail rates by 1960 and later which would be fully competitive with rates to seaboard ports. The last reason partially invalidates the 1960 estimate of Study B, for it seems extremely unlikely that so many rate changes can be achieved by 1960 or--if achieved--adequately exploited by the area's shippers.

In order to complete the picture of the Port's prospective general cargo commerce, the two studies summarized in Table 7 were employed in such a way that additional and more comparable categories of general cargo traffic could be obtained and totals compiled. The results appear in Table 8. In general, the uses of the estimates were based on certain assumptions about the pattern of future general cargo commerce at the Port--assumptions which derive from 1955, 1965 and 1975 information on port traffic (as contained, for example, in Table 7.) The assumptions, or hypotheses, are outlined in footnotes to Table 8. The reader is cautioned that all figures in Table 8, though based on forecasts of competent authorities, will need review and possible revision in light of traffic developments. They are merely suggestive of the magnitude of the traffic that would ensue, bearing in mind the underlying hypotheses.

The differences in the 2 sets of estimates for 1960 and 1965 (Table 8) are worth consideration. These disagreements arise wholly from the "Overseas only" category of the estimates. The other general cargo categories do not diverge simply because there was only the one set of estimates with which to work (those of Study A).

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[1] Ibid., p. 12. Their figures pertain only to Illinois portions of the Port. "Public" piers or terminals refer to those accepting freight from any source, in the manner of common carriers, and not just to facilities actually owned by a public agency.

TABLE 8

ESTIMATES OF FUTURE DEEP-DRAFT GENERAL CARGO FOR THE PORT OF CHICAGO AS BASED ON PROJECTIONS OF CURRENT PORT TRAFFIC PATTERNS AND THE ESTIMATES OF TABLE 7*

(Thousands of Short Tons)

Year	General Cargo Category	Total		Receipts		Shipments	
		Study A	Study B	Study A	Study B	Study A	Study B
1960	Canadian & overseas	660	1,070	420	580	240	490
	Overseas only	(380)	(790)	(150)	(310)	(230)	(480)
	Lakewise	950		450		500	
	Total deep draft	1,610	2,020	870	1,030	740	990
	At public term.**	(510)	(920)	(190)	(350)	(320)	(570)
1965	Canadian & overseas	1,050	1,320	590	690	460	630
	Overseas only	(700)	(970)	(250)	(350)	(450)	(620)
	Lakewise	1,110		560		550	
	Total deep draft	2,160	2,430	1,150	1,250	1,010	1,180
	At public term.**	(850)	(1,120)	(300)	(400)	(550)	(720)
1970#	Canadian & overseas	1,480	–	750	–	730	–
	Overseas only	(1,090)	–	(370)	–	(720)	–
	Lakewise	1,220	–	610	–	610	–
	Total deep draft	2,690	–	1,350	–	1,340	–
	At public term.**	(1,260)	–	(430)	–	(830)	–
1975	Canadian & overseas	1,920	–	910	–	1,010	–
	Overseas only	(1,500)	–	(500)	–	(1,000)	–
	Lakewise	1,340	–	670	–	670	–
	Total deep draft	3,260	–	1,580	–	1,680	–
	At public term.**	(1,680)	–	(560)	–	(1,120)	–

Notes: Dashes (–) indicate no estimate was possible. Parentheses enclose those numbers which, because they are sub-categories of more inclusive figures, do not enter into the "Total deep draft" estimate.

*Study A and Study B are identified in the footnote to Table 7.

The chief hypotheses applied to Study A were: (1) the share of the entire Port's deep-draft general cargo – exports and imports viewed separately – handled by various private terminals in 1955 and 1957 will remain the same; (2) this general cargo handled by the Port's private terminals – entirely Canadian and lakewise traffic – will increase through 1975 at the same rate projected in Study A for the same traffic at public terminals; (3) general cargo to and from Canada will retain the same ratio to total lakewise deep-draft general cargo tonnage as existed in 1957.

The chief hypotheses applied to Study B were; (1) overseas imports will have the same ratio to overseas exports as projected in Study A for the same two categories (from .80 in 1955 to .65 in 1960 and finally to .50 in 1975); (2) Canadian exports and imports will grow at a much slower rate than overseas commerce and will conform to the Canadian and lakewise traffic projections of Study A, which supposed a 25 per cent rise by 1965 over 1955 and a 50 per cent rise by 1975.

**The work "term." is an abbreviation of "terminals." The Study B amounts in parentheses are derived by adding to the Study A amounts in this category the differences between Studies A and B for "overseas only," all of which is assumed to pass through public terminals. Study B did not itself make a distinction between public and private terminal traffic.

#All 1970 estimates are straight-line interpolations between the 1965 and 1975 estimates, since the authors of Study A did not publish any separate 1970 figures of their own. In all cases where a number 5 turned up in the last place the preceding number was left the same and the 5 dropped, thus allowing for slightly more tonnage increase between 1970 and 1975 than between 1965 and 1970.

Focusing now upon the "Overseas only" category of Table 8, the size of the differences in the estimates of Study A and B totals 410,000 in 1960 and 270,000 tons in 1965. The reasons for these differences have already been indicated in connection with the discussion of Table 7, but it must be pointed out that the divergence would be even more significant if a more optimistic assumption were employed regarding the future growth of overseas imports. The assumption used by the authors of Study A--which was applied to the export estimates of Study B--means that imports will grow less rapidly than exports. No attempt was made in our present study to evaluate this import versus export assumption in the light of current expert opinion. If this assumption made in Study A proves erroneous and if, on the other hand, the area's overseas imports should continue to maintain the 1955-57 average of 90% of exports, then the difference between the total overseas general cargo commerce of Studies A and B could rise to 530,000 tons in 1960 and 480,000 tons in 1965.

Whether future overseas imports take the slower rate of increase assumed in Table B--based on Study A--or the faster rate that keeps them at 90% of exports, it is clear that Study B suggests a larger volume of general cargo traffic at the Port's public terminals than revealed by Study A. Even when using the slower rate of increase in overseas imports, Study B raises the prospect that traffic at public terminals in 1960 and 1965 could be the amounts given in Table 8 under Study B. As noted previously, the 1965 figure is more to be reckoned with than 1960, for with vigorous freight rate adjustment efforts the 1965 totals of Study B are not unattainable. Such additional tonnages of high value general cargo represent a potentiality for which the Port may strive. There are clear implications here not only for the Port's promotion and rate-setting activities, but also for the effort to insure the physical capability of handling such volumes of valuable commerce. These implications are so important for the Port's future, that they require more extended discussion. Consequently, the next chapter will highlight the freight rate situation and the succeeding chapter will go into the Port's capacity for handling all the general cargo which may be forthcoming. A later chapter will then consider the promotion problems involved.

Present and Potential Bulk Cargo Commerce

In 1957 the bulk cargoes made up about 97% of the Port's total receipts and about 95% of its total shipments. The commodity composition of this large scale bulk commerce is given in Table 9. It should be noted that the figures of Table 9 include all the general cargo traveling by barge on the inland waterways of the Port. (But an estimate of such general cargo was subtracted from the bulk cargo totals in making the percentage statements in the first sentence of this paragraph.)

Table 9 reveals the large portions of the Port's tonnages absorbed by receipts of iron ore (and concentrates), coal and limestone (for use in the area's large scale steel industry) and by shipments of coal, gasoline and fuel oil (going primarily to other Great Lakes ports, especially those on Lake Michigan). The very large difference between the volume of receipts and shipments on the Port's inland waterways is particularly worth noting. If future shipments down this route could rise relative to receipts, the Port would clearly experience an increase in efficiency.

TABLE 9

PRINCIPAL COMMODITIES MOVING AS BULK [a] CARGO TO AND FROM THE PORT OF CHICAGO - 1957

Type of Freight Movement	RECEIPTS			SHIPMENTS		
	Commodity	1,000 Short Tons	Per Cent of Total	Commodity	1,000 Short Tons	Per Cent of Total
Entire Port Traffic	Iron ore & concentrates	27,208	48.4	Bituminous coal & lignite	6,598	36.1
	Bituminous coal & lignite	9,152	16.3	Motor fuel & gasoline	4,322	23.6
	Crushed limestone	8,318	14.8	Gas oil & distillate fuel oil	2,247	12.3
	Sand, gravel & crushed rock	2,867	5.1	Sand, gravel & crushed rock	965	5.3
	Motor fuel & gasoline	1,874	3.3	Residual fuel oil	957	5.2
	Total receipts	56,238	100.0	Total shipments	18,290	100.0
Canadian	Iron ore & concentrates	1,087	84.5	Bituminous coal & lignite	721	51.1
	Barley & rye	93	7.2	Soybeans	231	16.4
	Non-metallic minerals & mfrs.	52	4.0	Residual fuel oil	155	11.0
	Sand, gravel & crushed rock	17	1.3	Sulphur	144	10.2
	Oats	15	1.2	Corn	126	8.9
	Total imports	1,287	100.0	Total exports	1,411	100.0
Lakewise and Coastwise	Iron ore & concentrates	26,121	67.2	Bituminous coal & lignite	5,869	45.0
	Crushed limestone	8,306	21.4	Motor fuel & gasoline	3,691	28.3
	Bituminous coal & lignite	3,797	9.8	Gas oil & distillate fuel oil	2,091	16.0
	Gypsum or plaster rock	363	.9	Petroleum, crude	387	3.0
	Sand, gravel, crushed rock	140	.4	Residual fuel oil	340	2.6
	Total receipts	38,892	100.0	Total shipments	13,043	100.0

Continued

TABLE 9 (Cont.)

PRINCIPAL COMMODITIES MOVING AS BULK [a] CARGO TO AND FROM THE PORT OF CHICAGO – 1957

Type of Freight Movement	RECEIPTS			SHIPMENTS		
	Commodity	1,000 Short Tons	Per Cent of Total	Commodity	1,000 Short Tons	Per Cent of Total
Internal (Inland waterways) [a]	Bituminous coal & lignite	5,345	37.1	Rolled & finished steel mill prod.	773	37.5
	Sand, gravel, crushed rock	1,838	12.8	Motor fuel & gasoline	515	25.0
	Motor fuel & gasoline	1,756	12.2	Industrial chemicals	120	5.8
	Residual fuel oil	1,311	9.1	Pig iron	95	4.6
	Corn	791	5.5	Iron & steel semi-finished products	84	4.1
	Total receipts	14,397	100.0	Total shipments	2,063	100.0

Type of Freight Movement	Commodity	1,000 Short Tons	Per Cent of Total
Intra-port and Local	Sand, gravel & crushed rock	1,746	55.3
	Residual fuel oil	862	27.3
	Motor fuel & gasoline	233	7.4
	Gas oil & distillate fuel oil	187	5.9
	Corn	41	1.3
	Total receipts (shipments)	3,159	100.0

a] In the "Internal (inland waterways)" classification, there is significant quantity of general cargo included in the figures. In addition to the Port of Chicago, Waukegan and Michigan City tonnages are also included.

SOURCE: United States, Department of the Army, Corps of Engineers, *Waterborne Commerce, Calendar Year 1957, Part 3: Waterways and Harbors, Great Lakes* (Detroit, 1958), pp. 41-70.

Potential Bulk Cargo Commerce at the Port of Chicago

Special studies of the future level of Port commerce in iron ore, stone, coal and grain have been undertaken by governmental and private groups.[1] The Seaway is expected to affect especially iron ore and grain movements. Without going into the details of the various procedures employed for estimating future traffic in these commodities, the future estimates may be summarized as follows:

1) Iron ore receipts at the Port should increase from the 1947-56 average annual level of 23.5 million short tons to 45.3 million short tons per annum in the 50-year period 1958-2007. Of this total an estimated 13.5 million short tons per year will be received at Gary Harbor, 13.5 million tons at Indiana Harbor, and 18.3 million tons at Calumet Harbor and River.

2) Stone receipts for all major purposes should increase from the 1952-56 annual average of 7.6 million short tons to 14.3 million tons as an average for the 50-year period 1958-2007. The total would be divided among the harbors: Gary, 3.1 million tons per year; Indiana Harbor, 3.7 million tons; Buffington Harbor, 2.9 million tons, and Calumet Harbor and River, 4.7 million tons.

3) Coal and coke receipts and shipments may rise from 12.8 million short tons in 1955 and 15.8 million tons in 1957 to 23 million tons in 1965 (10 million shipments) and 34 million tons in 1975 (15 million shipments). These figures are based on the 1965 and 1975 estimated shipments of Tippets et al., plus the assumption that the ratio of shipments to the total of receipts and shipments obtaining in 1957 (44%) continues. The latter assumption may not, however, be well founded and the 1965 and 1975 levels may therefore vary a good deal in either direction from the above estimates.

4) Grain shipments may, according to the Tippets and Hartley studies, reach 2.9 million short tons per year in the mid-1960's for overseas destinations. If lakewise and Canadian grain shipments remain at the level of the early 1950's, then the total deep draft shipments may, according to Tippets, become 3.5 million short tons in 1965. That quantity would be nearly 6 times the recent total deep draft shipments. The Chicago Association of Commerce's exports study indicates 775,000 tons will move out from the Port to Canadian and overseas destinations in 1960 (equals 2.5 times the 1956 level) and would rise to 1.81 million tons in 1965 (equals 5.5 times the 1956 level). (In 1957, shipments of grain on the Port's inland waterways were not a large portion of total shipments--only 9 per cent.) Of course, the number of tons actually handled by the Port in 1965 could be approximately 7.0 million short tons since the quantity of receipts approximates the quantity of shipments for the average year.

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[1] For iron ore see Division Engineer, North Central U. S. Army Engineer Division, Iron Ore Traffic Analysis on Great Lakes for Great Lakes Harbors Study (Chicago, 1957) (draft). For stone see idem, Stone Traffic Analysis on Great Lakes for Great Lakes Harbors Study (Chicago, 1957) (draft). For coal see Tippetts et al., op. cit., pp. 14-15. For grain see ibid., pp. 16-17, and also: Joseph R. Hartley, op. cit., and Chicago Association of Commerce and Industry, op. cit., pp. 27-30.

But, as in the case of coal, the same physical tons are normally involved in both receipts and shipments. For such a consideration as grain storage facilities, the figure for shipments alone has the greater significance.

So far as public facilities are concerned, grain and coal are the only commodities handled in volume. Iron ore, stone, petroleum products, sulfur, sand, gravel and crushed rock, sugar and other principal bulk commodities are generally handled by private industries who can expand their waterborne commerce facilities as need dictates. Without minimizing the importance of bulk commerce at the Port, but for the reason that the private industries have in the past adequately expanded their capacity to handle their own waterborne freight and can be expected to do so in the future, no attempt was made to assess the future level of receipts and shipments of other prominent bulk commodities or to project the future totals of all bulk commerce for the Port. Generally speaking, as the economy of the Chicago Metropolitan area expands, the waterborne commerce in most of these bulk items will expand proportionally, except as the Seaway and Cal-Sag improvements produce disproportionate changes in the size and pattern of some bulk commodity movements. For example, the Seaway will stimulate grain shipments and the Cal-Sag project will stimulate coal, grain and sand-gravel receipts, petroleum products receipts and shipments, and so forth. Physical limits to the amount of expansion of waterborne commerce on some of the Port's harbors and waterways do, however, exist, and it is probable that continued industrial growth within the Chicago Metropolitan area will increase waterway and harbor congestion, overly frequent raising of rail and highway bridges, and similar difficulties. Chapter V of this Report will discuss these matters more thoroughly.

Summary

One of the elements involved in the estimation of the amount of future waterborne commerce expected at the Port of Chicago is the size of the Port's tributary area. Various geographical definitions are possible: the most recent one of the Chicago Association of Commerce and Industry, based on both rail rates and the directness of rail lines to Chicago, stretches over several midwestern states and includes prominent industrial centers as well as vast agricultural areas and important raw material sources. However, the great majority of the Port's waterborne traffic originates and terminates within the Chicago Metropolitan Area.

The Port of Chicago leads all other Great Lakes Ports in total annual tonnage of waterborne commerce by a large amount. In 1957 the Port handled almost 76 million short tons. The total in 1970, according to past trends, would fall between 96 and 110 million tons. The second-ranking port was Duluth-Superior. Receipts of lakewise and inland waterway bulk cargoes such as iron ore, limestone and sand-gravel-rock are prominent movements, although shipments of coal and petroleum products are also large. Notwithstanding, general cargo is an important category of freight, for it has a value roughly 20 times that of bulk cargoes per ton. Depending partly on the precise definition of general cargo, some 40% of it arrives and departs in deep draft ships and the remainder travels via the inland waterway routes. Canadian newsprint, pig iron and building cement are chief general cargo commodities. So far as future deep draft general cargo commerce is

concerned, the various available estimates would suggest very significant growth, largely on account of the effect of the enlarged Seaway and deepened Great Lakes connecting channels. By 1965 the Port may handle 2.0 - 2.5 million tons. In 1957 a total of 1.39 million tons were received and shipped.

Among the bulk commodities, which accounted for 97% of the Port's total commerce in 1957, substantial growth in deep draft grain shipments is expected, perhaps reaching 6 times the present level by 1965. As the area's steel industry expands, the receipts of iron ore and stone should proportionately rise. The Port will likely ship more coal to other Great Lakes ports, expanding from 6 million tons in 1957 to something like 10 million tons in 1965. Except for grain and coal, bulk cargo movements do not affect public terminals. Their growth will, of course, affect waterway congestion and bridge openings.

CHAPTER IV

FREIGHT RATES

The extent to which traffic will move over a given route is governed largely by the overall transportation costs via that route as compared with those via alternative routes. There are many other factors, however, which may influence the routing of certain types of cargo, particularly high value general cargo where transportation costs are small in comparison to production and other additional costs. These can include special handling facilities, transit time, and frequency of shipping service. The rate structure and service presently in existence have been sufficiently favorable that waterborne traffic has steadily grown--thus indicating that healthy, competitive forces are at work. Larger ships, more industrial growth, larger and improved terminals and inland waterways should unleash further powerful competitive forces to improve freight rates. Water and land carrier rates account for the major share of the over-all cost of cargo movements between points in the Port hinterland and their overwater destinations. The relationships between rail and water rates via Chicago and the coast ports are discussed in the following sections together with the current practices (in effect) which led to their establishment. The comparisons used illustrate the general rates situation which prevails and give an indication of what needs to be done in the field of rate making in order for the region to benefit fully from the waterways improvements underway.

Water Rates

The principal factors affecting the rates for waterborne movement on the Great Lakes, the inland waterways and the ocean are covered in brief in the following section. Movement by water is normally the lowest cost means of transportation. Freight rates must reflect the savings potential which exists in water transportation if the benefits of improvements to the navigable waters of this country are to be fully realized. An awareness of the factors which govern rate making will assist in realizing this savings potential.

Lake Ocean Rates

Rates for cargo movement on the all-water route through the St. Lawrence Seaway between Chicago and overseas ports are generally considerably less in comparison to the competitive rail-water or truck-water route via the tidewater ports. However, no large volume of commerce can move from inland points to Chicago on prevailing land rates since the land rates in effect to lake ports are generally proportionately higher than special rates--known as export-import rates and applicable to foreign commerce--which are in effect from the same inland points to the tidewater ports despite the obviously greater distance. A rate structure which reflects the cost advantage of the seaway route over the seaboard route, and equalizes the export-import rate in effect to salt water ports for a comparable haul, is essential for full seaway traffic development.

Rates, rules, regulations, even sailing schedules and frequencies for the transportation of cargo by ocean carriers operating regular liner services in foreign trade are generally

controlled by the joint action of shipping operators engaged in a particular trade to or from a specified group of U. S. ports. Most of the regularly scheduled shipping services, the liner operators or common carriers of the sea, operating in Great Lakes-overseas trade are members of these participating groups which are known as "conferences." Both rates and agreements are subject to Maritime Commission approval to be effective. Conferences presently operating in Chicago are:

The Great Lakes-Bordeau-Hamburg Range Eastbound Conference.
Great Lakes-Scandinavian and Baltic Eastbound Conference.
Great Lakes-United Kingdom Eastbound Conference.
Great Lakes-Mediterranean Eastbound Conference.

More conferences will undoubtedly be established as the number of steamship companies in the Great Lakes service increase.

The conference system acts as a self-regulating device in international shipping by bringing about relative stability in the ocean rate structure since steamship lines engaged in regularly scheduled Great Lakes services are generally members of conferences. It is true that the tramp ship operators, as the contract carriers of the seas, without fixed route and regular service, compete with the liner operators with generally lower rates; however, the tramps serve mainly as leveling influences in absorption of the highs and lows of shipping requirements over the various trade routes. Characteristically, the tramp hauls bulk cargo which moves with irregularity, either due to seasonal or other factors, generally in full cargo lots. Liners, on the other hand, cater primarily to general cargo or dry cargo requiring reliability of regular service due to its high value which, in turn, necessitates speed superior to that provided in tramp service. This common carrier service raises ship operating costs and accounts for correspondingly higher ocean freight rates in that service.

Ocean conference rates are arrived at by conference members after consideration of cost of operation, competition, what the traffic will bear, and after discussion with shippers. In turn, the construction of lake-ocean conference rates considers the appropriate seaboard conference ocean freight rates in combination with the export rail rate from the inland point to the seaboard. The former rate is reduced by a variable percentage to establish a workable competitive position for the lake ports over the tidewater ports. Rates on import traffic are constructed in a similar manner. Generally speaking, for general cargo commodities the principal ports on the Great Lakes are divided into 3 groups: (1) Chicago-Milwaukee, (2) Detroit-Toledo, (3) Cleveland-Buffalo. Within groupings, the ports are blanketed, i.e., assigned equal rates, with the rates between groups varied in proportion to the distance from the ocean. Rate differentials may be established, however, favoring a particular port where traffic in certain commodities develops in large volume. The net effect there, of course, is to approach equality in rates between these ports and the ocean ports.

Table 10 provides comparisons between rail and water rates on movements of certain commodities from selected midwestern cities via Chicago and the competitive salt water ports of Baltimore and New Orleans to foreign Atlantic ports. A study of this table with the mileages from Table 1 will furnish an indication of rates matters of interest to the Port of Chicago.

(ANTWERP, ROTTERDAM, AMSTERDAM, LE HAVRE) VIA BALTIMORE, NEW ORLEANS, AND CHICAGO

(Dollars per 100 lbs. based on rates as of December, 1958) [a]

Origin & Commodity	Via Chicago				Via Baltimore				Via New Orleans				Chicago Rate Differential	
	Rail	(Minimum Carload Weight) [b]	Water [c]	Total	Rail	(Minimum Carload Weight) [b]	Water [c]	Total	Rail	(Minimum Carload Weight) [b]	Water [c]	Total	Under Baltimore	Under New Orleans
From Chicago, Ill.														
Garbage disposal units, electric	–	–	2.65	2.65	1.64	(24)	2.35	3.99	1.63	(24)	2.60	4.23	1.34	1.58
From Dubuque, Ia.														
Hides, green, salted	.54	(36)	1.60	2.14	1.23	(36)	1.40	2.63	1.00	(80)	2.00	3.00	.49	.86
From Sioux City, Ia.														
Soya bean oil [d]	.95	(60)	1.95	2.90	1.52	(sa)	1.60	3.12	.77	(sa)	1.55	2.32	.22	(over by .58)
From Burlington, Ia.														
Soap and soap powder [e]	.34	(36)	1.60	1.94	1.31	(sa)	1.20	2.51	1.02	(sa)	1.35	2.37	.57	.43
From St. Louis, Mo.														
Tin or terne plate	.42	(80)	.89	1.31	.90	(50)	.78	1.68	.46	(80)	.78	1.24	.37	(over by .07)
From Military, Kans. [f]														
Alcohol, methyl	.95	(30)	2.90	3.85	1.56	(30)	2.65	4.21	.62	(50)	2.65	3.27	.36	(over by .58)
From Indianapolis, Ind.														
Road building machinery	.91	(24)	1.12	2.03	1.19	(30)	1.12	2.31	.70	(45)	1.12	1.82	.28	(over by .21)
From Hartford City, Ind.														
Glass containers (empty jars and bottles)	.49	(30)	2.25	2.74	.94	(sa)	1.80	2.74	1.10	(sa)	2.00	3.10	0	.36
From Louisville, Ky.														
Stoves, cooking, electric	1.00	(24)	1.50	2.50	1.18	(sa)	1.20	2.38	1.09	(sa)	1.35	2.44	(over by .12)	(over by .06)

a] Rail rates to Baltimore furnished courtesy of the individual carriers according to current (December, 1958) tarriffs; rail rates to Chicago and New Orleans courtesy of Mr. George H. Weiss of the Great Lakes Overseas Freight Conferences, Chicago, according to tariffs in effect autumn, 1958; water rates supplied courtesy of Mr. Robert A. LaTall of the Furness, Withy & Co., Ltd., Chicago, Illinois, according to current conference contract rates. Rail tariff sources available in commission's files.

b] The applicable minimum carload weight is given in parentheses in thousands of pounds (e.g., "(36)" means a minimum weight of 36,000 pounds); "sa" means "same as the Chicago minimum."

c] In a number of cases the water rates given in this table are also given on a volume basis, the steamship company choosing whichever rate yields the greater revenue. But only the rates according to weight were used in compiling this table.

d] Rail rate in tank cars; water rate in barrels or drums.

e] "Soap" only for the water rate.

f] Located in southeastern corner of Kansas.

TABLE 10

Water rates from Chicago are in all cases equal to or higher than the rates from Baltimore while water rates from New Orleans are generally under Chicago water rates despite the considerably greater water distance from New Orleans. Combined rates from inland ports through the 3 American ports indicate:

1. Chicago under Baltimore but not proportionally so considering that points west of Chicago are a minimum of 600 miles farther by high cost rail transportation while low cost water is less than 600 miles farther via Chicago.

2. Chicago rates generally higher than New Orleans despite rail distance for points north of St. Louis being at least 400 miles nearer Chicago and water distance to overseas North Atlantic ports being at least 700 miles closer than New Orleans.

3. Baltimore rates are generally higher than New Orleans rates for points west of Chicago.

The table emphasizes that the savings in shipping costs are greatest through the Port of Chicago from the immediate vicinity of the Port--35% or more in some cases.

The future cargo rate pattern for the enlarged Seaway, while suggested by the present rate structure, is not fully determinable because of the unknowns interjected by lack of a firm level of tolls to be charged on the Seaway, and the Welland Canal, as well as the extent of the economies which will be possible in vessel operations through the availability and use of larger vessels and heavier loading of existing vessels. The table on the following page gives the toll tariff recommended by the United States Tolls Committee, and concurred in by the Canadian Tolls Committee, to the St. Lawrence Seaway Development Corporation.

Results of hearings held on these tolls by both the St. Lawrence Seaway Development Corporation (United States) and the St. Lawrence Seaway Authority (Canada) have not yet been announced. The reaction to the tolls were mixed with the railroads contending that the tolls appear to be too low to meet the costs of obligations, and the Lake Carriers Association claiming the tolls are too high to attract the bulk cargo needed to liquidate the Seaway costs. On the other hand, the ocean shipping companies serving Chicago express general satisfaction with the tolls levels. Tolls placed on the Welland Canal caused heavy protest from lake users since the canal has been free of tolls since 1871. It is generally considered that it will take perhaps 5 years to get the tolls level satisfactorily adjusted. In any case, the United States Tolls Committees expressed the opinion "That the tariff as recommended should be revised when conditions of traffic or revenue require."

Generally, it is anticipated that the increased vessel costs caused by the tolls levied for use of the enlarged St. Lawrence Seaway and the deepened Welland Canal will be offset to some degree by the decrease in operating costs made available by the use of larger vessels. This would indicate substantially little change in the water shipping rates via Great Lakes ports after the enlarged Seaway is placed in operation. However, ocean carriers have not definitely declared their intentions with regard to the handling of toll charges.

TABLE 11

ST. LAWRENCE SEAWAY
MONTREAL TO LAKE ERIE RECOMMENDED TOLL

Type of Toll	Total	Montreal - Lake Ontario	Welland Canal
A. Composite Rate for Freight Traffic Comprising One Charge, Based on Measurement of Vessel			
Per Gross Registered Ton,** Whether Wholly or Partially Laden or in Ballast	$ 0.06	0.04	0.02
And Another Charge Based on Cargo Actually Carried			
Per Short Ton for Bulk Cargo	0.42	0.40	0.02
Per Short Ton for General Cargo	0.95	0.90	0.05
B. Tolls for Traffic Other than Freight			
Commercial Passengers	7.50	3.50	4.00
Pleasure Craft - Minimum of	30.00	14.00*	16.00
Other Vessels - Minimum of	60.00	28.00*	32.00

*Subject to "A" above.
**Gross Registered Ton (GRT): Internal Cubic Capacity of the Ship in Tons of 100 Cubic Feet

There are other matters which may effect the lake ocean trade such as the problem of establishing adequate pilotage requirements on the Great Lakes in the interests of marine safety for vessels under foreign flag registry and for American flag vessels in overseas trade. If a pilotage bill introduced by the Coast Guard in 1957 should pass this Congress, the requirement that pilots be aboard at all times while the vessel is in the Great Lakes will raise vessel costs which, in turn, will probably raise ocean rates.

Another matter, which if adjusted in favor of the Great Lakes, would increase traffic, is the participation of the Great Lakes ports in shipment of surplus agricultural products sold by the United States overseas. Presently, federal officials are applying the statutory provision that 50% of the tonnage be moved on American flag vessels in such fashion that Great Lakes ports do not participate in the program at all. This action ignores the fact that large quantities of the products are stored near Great Lakes ports. Foreign flag vessels could carry these surplus agricultural products out of the Great Lakes and American flag vessels could carry them from the coastal ports with net benefit to the tax payers.

Lake Rates

The Great Lakes traffic consists of vast amounts of bulk cargo moved in large part by private industrial and contract carriers. Accordingly, the Interstate Commerce Commission is without jurisdiction on much of this traffic. The special handling facilities, and size and speed of ships developed to handle the vast traffic have reduced lake transportation to a cost where land transportation cannot compete. The movement of iron ore on the Lakes generally determines the rates and the pattern of flow of these bulk commodities, with coal being the principal cargo used for return trips. Thus, the lake rates are heavily influenced by the steel companies who generally control the rate on iron ore by operation of their own vessels. In turn, the coal rates by custom are fixed as a differential of the ore rate. Other commodities such as steel mill products, sulphur, stone, and sand also move by private and contract carrier with rates fixed by agreement and in many instances the transportation costs are included in the price of the product quoted to the consignee laid down at destination. The favorable transportation costs enables water-oriented industry to broaden its market and to compete in markets where nearer producers must rely on land carriers.

Package freight movement has largely disappeared from lakes traffic due to the inability of water carriers to meet land carrier competition because of the high cost of water terminal operation at inadequate terminals using inadequate equipment. This traffic has therefore been vulnerable to rail competition, and the railroads have succeeded in reducing their rates to meet water competition. The program of modernization of water terminals and cargo handling facilities now underway at Great Lakes ports, plus increased sailings which will be inspired by the Seaway enlargement may revive this trade by permitting competitive rates and improved service. Many ports and vessel operators are considering for adoption in the package freight service--as well as in overseas movements--the trends toward containerization lift on-lift off and roll on-roll off methods for cargo handling. The savings in cargo handling costs which appear after preliminary examination of containerization methods of cargo handling assures careful exploration by all concerned.

Barge Rates

Since transportation of goods by water is accomplished at lower cost than by land movement, i.e. truck or rail, lower rates have habitually prevailed for water transportation. This has caused reduction in rail and truck rates to enable these carriers to compete with barge movement on the inland waterways. In addition, this has precipitated joint water-land carrier rates which are lower than all-rail rates. Thus, in addition to the direct savings of lower costs of water movements, the competitive force of water transportation has influenced overall reduction of transportation costs with overall economic advantage to the area.

An indication of the direct savings possible in movement of goods by barge can be gained from the results of a comprehensive study of such movements conducted by the Chicago District, Corps of Engineers, in 1956. This study developed the unit transportation savings resulting from typical commodity movements on the Illinois Waterway in comparison to the least costly alternative means of transportation. The study sought to determine benefits to be expected from certain improvements to waterways investigations directed by Congress.[1] The study examined all principal bulk commodities moving on the

[1]Corps of Engineers, U. S. Army, Chicago District, Interim Survey Report of Duplicate Locks, Illinois Waterway (Chicago, 1957), Appendix A, p. A-53.

Illinois Waterway and considered all origins of traffic which contributed significant tonnage. The transportation costs included where appropriate the I-3 principal additional charges to the barge rates themselves, which are normally involved in waterways movements: (1) cost of movement to the waterway terminal, (2) terminal handling charges, and (3) cost of transporting to destination beyond the limits of barge movements. Transportation rates and costs were those prevailing in 1956, with tariff rates used when available. Subsequent revisions of transportation rates, handling charges, etc. which have occurred since the study do not negate the overall findings. The average transportation savings for all commodity tonnages which were considered prospective to the Illinois Waterway were estimated at $1.03 per short ton.

Barge rates are effected by many factors, a few of which are: Availability of backhaul cargo, delay in movements caused by restricted channels, bridge openings, congestion at locks, channel condition at various seasons of the year, efficiency of terminal operations, and others. Only by the economical elimination of factors which increase the cost of barge operation can the full advantage of this low cost transportation medium be exploited. The Great Lakes region through Chicago and the Illinois Waterway has access to the vast area served by the Mississippi River system--the Mississippi, Ohio, Missouri and Tennessee Rivers--and the Intra-Coastal Waterway of the Gulf of Mexico (Figure 1). As such, the Illinois Waterway is a major link in the nation's transportation system. As previously brought out, the commerce on the entire Waterway, including its 2 connections with Lake Michigan, has increased from 1.7 million tons in 1935 to 24.2 million tons in 1957. Corps of Engineers estimates in the document cited above indicate the prospective commerce on the Waterway below Lockport alone to be about 32.7 million tons by 1970. Progress on the Calumet-Sag modifications, continued industrial and terminal development on the waterways and in Lake Calumet, coupled with the St. Lawrence Seaway improvement, point to dynamic growth yet to come, despite the tremendous growth of the past.

Rail Rates

A general knowledge of the rail rate making process, as it applies to movements of freight by water, is important to an understanding of the competitive rail rate problems which vitally affects cargo movements through the lower Lake Michigan area as well as other Great Lakes ports. Recent statistics[1] on general cargo movements through ocean ports for export from Chicago's tributary area showed railroads in 1956 moved 70.5% of the total tonnage and motor carriers 16.8% with the tonnage approximately equally split between the East and Gulf Coast ports. Since these movements accounted for approximately 75% of the export tonnage from the area, there will be an apparent loss of traffic to the eastern railroads and a gain to the western railroads with diversion of traffic from the coast to the Great Lakes ports.

Line Haul Rates

Rail rates on traffic moving within the United States can be generally divided into 2 categories, domestic rates and export-import rates. Traffic moving via tidewater ports

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[1]Chicago Association of Commerce and Industry, op. cit.

between inland and overseas points move on export-import rates while, generally speaking, foreign traffic moving via lake ports to and from inland points move on domestic rates. While no legal requirement is placed on carriers for establishing export-import rates, the fact that such rates are--as a general rule--established at tidewater ports and at levels lower than domestic rates has led to a generally accepted concept that such rates should be established and should be lower than rates applicable to domestic movements. Since full development of traffic in the area tributary to ports is an essential requirement for maximizing port traffic, shippers, port officials and other interested agencies have become keenly aware of the need for obtaining the benefits of export-import rates for the Great Lakes ports. A brief account of the rate situation on foreign traffic at Atlantic and Gulf Coast ports will help in understanding the problem and its amelioration.

Brief History and Significance of Export-Import Rates[1]

As a result of keen competition for foreign trade between the North Atlantic ports and the railroads serving these ports, a compromise resulted which established rail rates to and from these ports based on fixed rate differentials to and from New York City rather than on railroad mileages. The purpose was to equalize total transportation costs, rail and ocean, to foreign countries via the principal North Atlantic ports since at that time (1877) ocean carriers did not maintain the same rates at all of these ports to the same overseas points as they have since 1935. While other disputes have followed, the principle of rate differentials among North Atlantic ports has continued to the present time even though all North Atlantic ports have identical ocean carrier rates.

In the early 1900's because of a long period of dispute between the railroads serving the eastern and those serving the Gulf Coast ports over the competitive relationship of rates on waterborne commerce imports, arbitration resulted in subdivision of the common tributary area--which includes the North Central states served by the 2 groups of ports--for rate making purposes. This arbitration, known as the Todd-Knott awards established the principle that rates in the western portion of the area should be more favorable to the Gulf and South Atlantic ports for movement of traffic to Europe, Asia and Africa than for the North Atlantic ports. The latter ports should in turn receive preference in the eastern portion of the common tributary area. These principles, though subjected to repeated attack, have endured and in the meantime have been extended to exports. In 1934 this rate pattern received the approval of the Interstate Commerce Commission.

The significance of import-export rates to the development of ports is very well brought out by the results of the previously mentioned Todd-Knott Awards on the Gulf and South Atlantic ports. These ports had lost a great deal of their traffic to the North Atlantic after the Civil War. The Todd-Knott arbitration and the creation by the Southern ports and their serving railroads of the Southern Ports Foreign Freight Committee--a group of rail export rate specialists--brought about a rate structure favorable to the Gulf ports and South Atlantic ports. The effect was a revival of their port traffic and a recreation of their port industry. The Southern Ports Freight Committee has maintained the highly beneficial rate structure over the past 50 years by continuous study and judicious use of aggressive rate making practices.

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[1]Port of New York Authority, Brief History of Port Differential Rates, Appendix A.

The existing situation

The traffic of the Port of Chicago--as with other Great Lakes ports--has largely originated and terminated in the Metropolitan Area. A recent report issued by the Chicago Association of Commerce and Industry based on an extensive survey of export possibilities of the Port of Chicago[1] revealed that from the tributary area of Chicago, consisting of some parts of 15 midwest states, there was exported 2.5 million tons of general cargo in 1956. Only 122,761 tons or 5%, moved through the Port of Chicago. The survey predicted an increase in the amount moving through Chicago to 489,274 tons by 1960 and 629,000 tons by 1965 if export-import rates are established through the Port of Chicago which are competitive with the tidewater ports. The survey showed that 37.2% moved through East Coast ports, 36% through Gulf Coast ports, 4.5% through West Coast ports, 1.5% through other Great Lakes ports, and the remainder by land and air. In view of (1) the above Port traffic predictions, (2) the record of increased overseas ship arrivals at the Port of Chicago which in 1958, according to customs officials, rose 35% over 1957, plus (3) the added interest of foreign and American shipping lines in Great Lakes service, there is apparently strong justification for competitive rail and truck rates with coast ports.

A brief summary of the railroad rate making jurisdictions[2] in the Great Lakes region is also helpful to an understanding of the rate making problem. The west bank Lake Michigan ports to and including the south end of Lake Michigan within the Chicago Switching District are under jurisdiction of the following agencies for the development of export-import rates: the Illinois Freight Association, the Transcontinental Freight Bureau, the Western Trunk Line Association, the Southwestern Freight Bureau, the Southern Freight Association and the Ohio River-Mississippi Valley Committee.

On the other hand, the Southern Ports Foreign Freight Committee has jurisdiction over the making of export-import freight rates to and from the Gulf ports--New Orleans, Mobile, Houston, etc. --and the entire area served by them, which in addition to the southern states includes the states generally forming the tributary area of the West Coast Lake Michigan ports (See Figure 4). Obviously, the west coast Lake Michigan ports and the Gulf ports have overlapping tributary areas and are competitors.

It is apparent that within the territory outlined above, under surveillance of the Southern Ports Foreign Freight Committee, present rates will generally favor the Gulf ports. This is because--as already noted--only domestic rates apply, with few exceptions, to rail movements to and from Lake Michigan ports, while export import rates are in effect for the Gulf ports.

The east bank Lake Michigan ports, including Michigan City, Indiana and ports to the east thereof, e.g., Toledo, Cleveland, Erie, Buffalo, etc., are under the jurisdiction of the Eastern Trunk Lines Committee. This Committee also covers the North Atlantic seaboard ports down to Hampton Roads, Virginia. Consequently, freight rates for rail movements to and from tributary areas common to the Great Lakes ports and the North Atlantic

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[1]Chicago Association of Commerce and Industry, op. cit.

[2]George H. Weiss furnished the data on the rate making jurisdictions affecting Great Lakes ports.

ports are most favorable to the North Atlantic Seaboard ports since export-import rates to and from the Great Lakes ports are lacking.

Referring again to Table 10 which gives rail rates on certain commodities from inland ports to Chicago, New Orleans and Baltimore, rail rates from the various inland points through the 3 ports indicate the following:

1. Rail rates to Baltimore are proportionally cheaper than to Chicago, based on mileage, with less advantage accruing to Baltimore from points west of Chicago.

2. Rail rates to New Orleans are considerably less proportionally, on a mileage basis, than to Chicago. In several cases the rates are actually lower despite shorter distances to Chicago.

3. A comparison between the rail rates from inland ports to Baltimore and New Orleans show that New Orleans is definitely favored.

The many railroad rate making jurisdictions complicate the development of a united front by Great Lakes ports aimed at obtaining a complete schedule of export-import rates on an equitable relationship with competitive ports.

The Great Lakes Commission has a special committee studying this problem, recognizing it as a major one confronting the Great Lakes region if the potentials of the St. Lawrence Seaway are to be fully realized.[1]

The railroads position

Comments made by Mr. Clair M. Roddewig, President of the Association of Western Railways in letter to this Commission on August 7, 1958 brings out the factors involved from his Association's viewpoint:

"In deciding upon the level of export and import rates, the rail carriers have always been obliged to decide whether the benefits accruing from the additional traffic which would be attracted to the rails by reason of the lower rates would compensate for the depletion of revenues for shipment.

"There are many other factors which also have to be considered, among them being equalization of ports and the possibility of the railroads shorthauling[2] themselves. These factors must be weighed and the decisions reached, not by the Association of Western Railways, or its counterpart in Eastern Territory, but by the individual railroads serving the lower Lake Michigan ports, acting through their respective rate committees. I feel certain that all railroads serving the lower Lake Michigan ports

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[1]Great Lakes Commission, Annual Report - 1957, pp. 8, 16.

[2]A term used to describe a situation unfavorable to a carrier in which the carrier moves freight a short distance over its own route, and then is required to transship it to another competing carrier for movement over a parallel route, rather than moving it as far as possible on its own route.

will be glad to consider any proposals made by the shipping public which will redound to the mutual advantage of the communities and themselves."

The Chicago and Northwestern Railway Company, through its Vice President in charge of Traffic, Mr. E. A. Olson, expressed its position as follows on September 12, 1958 in letter to this Commission:

> "It is our opinion that one of the principal factors in connection with this problem will be the measure of the toll charges to be assessed. The toll charge will undoubtedly influence the rates and charges of the component modes of transportation which contribute to the effective utilization of the Seaway. Additionally, the individual commodities will require separate consideration as to what, if any, adjustments in rail freight rates are necessary. This phase is being followed very closely by our Foreign Freight Department and we have today many combinations of rail and ocean rates which make movement via Great Lakes ports favorably competitive with coastal ports.
>
> "It is our view that at this time it is not possible to work out arrangements for blanket rate adjustments as the carriers are confronted with numerous unsettled factors, of which the toll charges are but one. In addition, some commodities which can conceivably move in great volume will undoubtedly lend themselves to adjustments in the ocean and rail rates."

The above comments indicate an awareness of the problems by the railroads, but suggest a probable long period of negotiations of individual rates rather than working out a formula permitting prompt rate adjustment through its application. A ray of hope can be seen in the recent success of both Milwaukee and Chicago in negotiating export rates on a few commodities with both rail and highway carriers. However, the number of rates negotiated--though valuable as a precedent--is small in the total picture.

The Transportation Act of 1958

Passed in the last session of Congress, this legislation generally sought inter alia, to give the railroads relief from so-called "over regulation." The Act states that the Interstate Commerce Commission may not deny a rate reduction to protect the rate of another carrier. The extent of the freedom gained is yet to be determined since the 1958 Act specifically states: " . . . giving due consideration to the objectives of national transportation policy." The reference is to previous policy prohibiting unfair and destructive rate making practices. The water carriers contend this policy prevents rates from being established below full costs to the carrier. A test case has been filed in Chicago before the Interstate Commerce Commission, which involves the shipment of paper from St. Francisville, Louisiana, to Chicago.[1] If the railroads have the freedom they contend, the impact may be disruptive to the entire transportation rate structure. In any case, actions under the Act may tend to divert the railroads attention from the Great Lakes export-import rate problem.

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[1] Chicago Daily Tribune, October 30, 1958.

Switching District Rates

The Chicago Switching District encompasses the area shown in Map 26. The 22 trunk line railroads serving Chicago are in turn served by 11 belt line or switching railroads which permit interchange of long haul and local traffic between the various trunk and belt railroads, and the port facilities within the Switching District. The Outer Belt Line, or the Elgin, Joliet and Eastern Railway, located outside the Chicago Terminal Switching District, intersects all trunk line railroads converging on Chicago. It serves as a connecting link over which through freight traffic can move between the trunk lines, as well as a route for channeling traffic originating or terminating within the Switching District to or from a trunk line carrier.

The creation of the Chicago Switching District enabled the establishment of uniform rates, rules and regulations for switching services performed in the District and simplified what could have been a complex and costly switching situation. All common carriers operating in the area concur in the rates issued by a single agent for the District. Generally speaking, line haul carriers absorb switching charges performed in the Switching District on their long haul traffic over stated minimums. Local traffic is charged at the same rates for movement anywhere in the District.

Deep draft harbors at Waukegan, Illinois; Gary, Michigan City and the proposed Burns Harbor, Indiana are outside the Chicago Switching District. The Indiana Harbor Belt Railroad, however, has published rates applicable between Burns Harbor (and other stations on its connecting lines west to Chicago) and stations on connecting lines in the Chicago District.

Locations on the inland waterways west of Blue Island on the Cal-Sag Channel and southwest of Summit on the Chicago Sanitary and Ship Canal are also outside the Switching District lines.

Even though Switching District limits established many years ago have not been extended, industrial development outside of the limits of the Chicago Switching District has been great, particularly in the Calumet area. However, the additional costs to industry of incurring higher switching charges by locating outside the Switching District may have been a factor tending to keep industrial development within the District boundaries for those industries where rail transportation is important. An extension of the Switching District boundaries would give additional impetus to industrial development by providing new industry with access to switching rates and central switching service. Neutral switching facilities furnished by a belt line free a user from depending on any one trunk line or other rail service and avoid any tendency for preferential treatment which might exist if the switching service is performed by a single trunk line railroad. In this regard, Lake Calumet Harbor is presently served solely by the Chicago, Rock Island and Pacific Railroad. A port, particularly, has need for neutral access. It will be to the advantage of the Port if the applications of several other railroads before regulatory authorities to serve the Lake Calumet Harbor are approved.

Rail Demurrage on Port Traffic

The Great Lakes ports are now on an equal basis with seaboard ports on the length of time, 7 days, that a shipment is allowed to remain on a freight car at a port before being

charged demurrage. Successful intervention by Chicago port interests in a complaint proceedings conducted before the Interstate Commerce Commission[1] in 1957 resulted in the removal of the 2 day period previously allowed the Lake ports.

Rail-Water Joint Rates

The waterways which join Chicago with the Ohio River and the Gulf through the Mississippi River system furnish a low cost transportation medium for movement of industrial and commercial traffic. The railroads have recognized the cost advantage and have participated with the water carriers by entering into joint rates via water and rail between interior points and Chicago. Joint rates have also been established by rail and Great Lakes water carriers for the movement of such bulk commodities as coal, iron ore and grain. The availability of these low cost transportation rates has been of great advantage in attracting industry to the Chicago area.

Motor Carrier Rates

The motor carriers' tariffs and published rates are in conformance with rules and regulations of the Interstate Commerce Commission and the jurisdictional regulations of the several states. They generally follow the structure and level of rail rates for movements between points in the tributary area, the Port of Chicago and tidewater ports. Truck rates tend to be less than rail rates for distances up to about 450 miles but higher than rail rates beyond this distance.

Export-import rates for motor carrier movements of goods to and from inland points through Great Lakes ports in overseas trade are equally as necessary as similar rail rates for full development of seaway traffic through the lower Lake Michigan ports. The Central States Motor Freight Bureau has established a permanent committee to study export-import truck rates to and from Chicago and other Great Lakes ports. Results of this committee action have not been published to date. In the meantime, rates equally applicable to domestic and foreign movements are in general use by the truck industry through the Great Lakes ports.

The Commercial Zone of Chicago as defined by the Interstate Commerce Commission generally encompasses Metropolitan Chicago (see Map 26) and is the area within which motor carriers are partially exempt from Interstate Commerce Act regulations. Exemptions pertain to rates for local movements. The rates generally applicable within this zone are established by a tariff published by a traffic and rate bureau of the motor truck industry.

The extension of the limits of the Commercial Zone of Chicago would be an inducement to industry to locate beyond the present boundaries.

The importance of providing adequate truck access to port terminal facilities will be discussed in Chapter V.

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[1]Chicago Regional Port District; Calumet Harbor Terminals, Inc.; and North Pier Terminal Co., and Intervener, State of Illinois, Brief of Complaints, I.C.C. Docket No. 32023 (Chicago, January 21, 1957).

Summary

In the establishment of rates--water, rail and truck--a comparison with other rates existing is a factor. In the case of rail and ocean rates, practices of long standing are in effect. Rail rates to coastal ports have resulted from agreements arrived at by compromise and arbitration, not necessarily from mileage considerations. Adjustment of rates to Great Lakes ports which reflect the lower costs of water movement in comparison with long haul rail and water movement will necessitate an adjustment in the existing rate practices in order to accommodate the burgeoning Great Lakes ports. A means of rapid adjustment of these rates should be sought, as adjustment on a commodity basis by negotiation will be too time consuming. In any case, prompt and continuing action will be required to insure that competitive rates are placed in effect and remain competitive.

The extension of the Chicago Switching District and the Commercial Zone of Chicago suggests advantages which should be studied.

There are other matters under consideration which affect Great Lakes trade, a prominent one being the pilotage question. Freight rates may be raised if pilots are required to be aboard vessels of foreign registry or aboard American flag vessels in the overseas trade during the entire time they are in the Great Lakes.

Another matter which should be solved in favor of the Great Lakes is the participation of Great Lakes ports in shipment of surplus agricultural products sold by the United States overseas. This matter requires adjustment with federal authorities so that foreign flag vessels in the Great Lakes can handle the surplus agricultural products from these ports while American flag vessels serve the coastal ports and thereby fulfill the requirements that 50% of shipments be handled in American flag vessels.

CHAPTER V

HARBORS, WATERWAYS AND TERMINALS

The lower Lake Michigan area as defined in Chapter I and shown in Map 26 includes all of the harbors with associated inland waterways and terminal facilities for waterborne commerce of the states of Illinois and Indiana along the shores of Lake Michigan, including the inland waterways routes from Lake Michigan to Joliet, Illinois.

Lakefront Harbors

The 7 lakefront harbors are artificial harbors protected by breakwaters. All accommodate ocean and lake vessels. Buffington and Gary Harbors are privately owned and operated by their steel corporation owner. Chicago, Calumet and Indiana Harbors have extensive inner harbors which accommodate deep draft vessels, including in Calumet Harbor the highly important Lake Calumet development. Chicago and Calumet Harbors are the only ones presently connected by developed inland water routes with the important Lakes-to-Gulf waterway; however, such a connection is authorized for Indiana Harbor as a part of the Calumet-Sag Channel project, discussed later. Waukegan and Michigan City Harbors, while not included in the Port of Chicago, as defined by the Corps of Engineers, are considered as harbors of the main port.

Repeated recommendations have been made in reports on port development beginning in 1918 for a public lakefront harbor at the Illinois-Indiana state line. In addition, the State of Indiana proposed in 1949 and actively supports the construction of a new public harbor in the vicinity of the Burns Waterway outlet to Lake Michigan, approximately 8 miles east of Gary Harbor. These recommendations involving major federal expenditures for harbor and channel construction and maintenance are viewed by federal agencies as regional projects of widespread rather than local benefit. Justification is therefore required on this regional basis.

Waukegan Harbor

The most northerly of the harbors in the area is located 40 miles north of Chicago and about halfway to Milwaukee, Wisconsin (See Map 26). The harbor mainly serves the lakefront industries of the city.

The physical features of the harbor are shown in Map 19. The area of the inner basin is about 20 acres, 14 acres having controlling depths maintained at 18 feet and 6 acres in the southwest corner, used as a mooring basin for pleasure craft, maintained at 8 feet. A public open wharf, 570 feet long, on the west side of the inner basin is owned by the City of Waukegan and has been used in the past mainly by commercial fishermen. Slips 1, 2 and 3 are owned by the Elgin, Joliet and Eastern Railway Company (Chicago Outer Belt). Structures are built to permit deepening of the basin to a maximum of 24 feet.

SOURCE: Chicago Aerial Industries, Inc.

Figure 7.

Air View of Chicago Harbor, Chicago River and North and South Branches – 1958 Photography

There is considerable heavy industry in Waukegan located on the waterfront engaged in manufacturing building materials, outboard engines, castings, steel and wire products, and various other products. Industrial expansion of some magnitude is a possibility in the area. Industry is served by the E. J. and E., the Chicago, North Shore and Milwaukee, and the Chicago and North Western Railroads, and a network of interconnecting highways, including the Illinois toll road. No connections with the inland waterway system exist except by traversing the open lake.

Waterborne commerce in Waukegan reached a peak of 319,255 tons in 1943, reduced to a low of 70,413 tons in 1954, and increased to an estimated 85,000 tons in 1957. Coal and a small amount of fish, all receipts, accounted for the port's tonnage in 1957.

There has been an upsurge of interest in port activities in Waukegan since the approval of the Seaway, and in 1955 the Illinois State Legislature created the Waukegan Port District. Recognizing the limitations of the inner basin as to depth of water and vessel movement, long range plans for Waukegan Harbor are predicated on the development as needed of the lakefront north and south of the harbor entrance behind breakwaters proposed to be constructed by the federal government. Plans call for extensive dredge fill behind bulkheads to provide acreage needed for piers, access and open storage areas. The natural area for industrial development is presently limited somewhat by a bluff a short distance inland.

The Chicago District U. S. Army Corps of Engineers has recently received $10,000 to conduct a study on a northern extension of the existing federal project in Waukegan Harbor. Also, overall harbor deepening studies are being conducted by this agency on Waukegan Harbor with completion forecast in 1960.

Waukegan Port District Board members are aware of the need for extensive industrial development if its long range port plans are to be accomplished.

Chicago Harbor

Located on Lake Michigan at the mouth of the Chicago River, it extends inland about 1/2 mile within the river entrance. See Maps 26, 20 and Figure 7 for location and layout of physical facilities. The outer basin has an area of about 970 acres protected by a breakwater constructed at federal expense. The protected water area has been reduced by the withdrawal of over 50 acres for construction of a water filtration plant to augment Chicago's water supply. The inner basin south section of 175 acres is used generally for mooring recreational craft. The north section of the inner basin contains about 53 acres with entrance through the locks and controlling works owned and operated by the Metropolitan Sanitary District of Greater Chicago. The controlling works prevent the flow of polluted water from the Chicago River into Lake Michigan during periods of storm run-off. The lock chamber of the controlling works has a 600 foot clear length and 80 foot clear width with a 23 foot depth of water over the lock sills. Present water depths will prevent use of the lock by vessels loaded to full Seaway drafts.

Harbor deepening studies by the U. S. Army Corps of Engineers to determine the advisability and extent of federal participation in providing deeper channels for access to Chicago Harbor facilities will be completed in 1960.

The Chicago River

Extending westerly from Rush Street--the dividing line between the Chicago Harbor and River--the Chicago River to the forks, and through its South Branch to the connection with the Chicago Sanitary and Ship Canal at South Damen Avenue, and the North Branch Channel extending from the forks 2 miles north to the limits of the federally maintained project, are considered the inner portions of Chicago Harbor.

The South Branch was once the main inland portion of the entire port system of Chicago. Now the numerous bridges which cross it, and the traffic congestion on the city streets, limit its usefulness as a commercial waterway for movement of the large volume of traffic characteristic of a deep draft link in the Lakes-to-Gulf Waterway. Lakeward of the connection between the Chicago Sanitary and Ship Canal and the Chicago River at Damen Avenue, large tows are limited to 2 barges by Chicago City Ordinance. Most of the waterfront on the Chicago River and its South Branch is privately owned and intensively developed by industrial, commercial and railroad companies with little area available for added use by industry.

The North Branch of the Chicago River has the same restrictions as the South Branch. Beyond North Avenue, the limit of the federal channel project, channel depths limit its use to barge traffic. Its built-up nature prevents further expansion by industry along its banks.

Calumet Harbor and River

The principal port area of lower Lake Michigan is the Calumet Harbor and River, including Lake Calumet, which will be discussed separately. Calumet Harbor is 12-1/2 miles south of Chicago Harbor. The water-oriented industries lying along Calumet Harbor and River are an important part of the huge expanding industrial belt which makes up the Calumet area.[1] They account for large commodity movements by water as brought out in Chapter III, which has been ever increasing since the early development of Calumet Harbor and River late in the nineteenth century.

Calumet Harbor and River details are shown in Maps 26 and 22. The harbor has been recommended for deepening by the Board of Engineers for Rivers and Harbors, Corps of Engineers, as a result of a recent favorable study by the Chicago District of the same agency. The project calls for a depth of 29 feet in the lake approach, 28 feet in the outer harbor, and 27 feet in the river entrance to the E. J. and E. Railway Bridge. Studies involving the deepening of Calumet River and Lake Calumet to Seaway depths are estimated to be completed in 1960.

The Calumet River is a winding stream lined with industrial establishments for most of the 6 miles of its length between Calumet Harbor and Turning Basin No. 5 at the entrance to Lake Calumet (See Figure 8). It is crossed by 9 railway bridges and 5 highway bridges in that distance, all movable, plus the recently completed Calumet Skyway Bridge which is a high level bridge with adequate clearance for all masted ocean vessels. Three

[1] Defined as extending from 79th Street in Chicago south to the Cook County line and from Joliet east to the eastern limits of Gary, Indiana.

SOURCE: Chicago Aerial Industries, Inc.

Figure 8.

Air View of 2 Miles of the Calumet River Looking Westward from Lake Michigan. Turning Basin No. 1 is in the right foreground and Wisconsin Steel Works in the left background. 1957 Photography.

railroad bridges at the southern end of the channel limit the length of vessels that can negotiate the river to 540 feet. These 3 bridges are under study by the Corps of Engineers for removal, consolidation if acceptable to the railroads, and realignment for channel improvement. The authorized federal navigation project for the channel--providing for a 200 foot minimum channel width, easing of bends, and 2 more turning basins--is proceeding as local interests provide the necessary rights of way. In Map 22 the cross-hatched sections indicate work to be accomplished within the existing federal project in channel re-alignment, widening and deepening.

The conflict between vessel traffic and land and rail bridge traffic on the Calumet River is serious. With added industrial growth in the Calumet area and increased vessel movement expected when the waterways improvements are completed, the conflict can become acute. The newly constructed expressways and the Calumet Skyway may temporarily ease the increasing traffic load. The Corps of Engineers has been quoted as stating that the Calumet River has a capacity of 30 million tons.[1] Total traffic in 1956 on the Calumet River was 17.8 million tons.[2]

The substantial tonnages which will be added by industrial development on the Calumet River, in Lake Calumet, and on the Calumet-Sag Channel, plus that generated from the continual development of Lake Calumet for use by deep draft vessels and barges, and the tonnage estimated to be made available from the improved Calumet-Sag Channel points to the need for consideration to be given to the capacity of the Calumet River.

Lake Calumet

Located as shown in Map 26, it is connected with deep draft vessel traffic through the Calumet River to Lake Michigan, and with barge traffic through the Calumet and Little Calumet Rivers and the Calumet-Sag Channel to the Illinois Waterway. Originally a shallow body of water about 4 feet in depth and 2,300 acres in extent, dredging and filling operations and other land use reduced the area to the 1,910 acres transferred to the Chicago Regional Port District Board by the City of Chicago in 1955.

The Chicago Regional Port District Board, a port authority created by the Illinois State Legislature in 1951 with jurisdiction over the district outlined in Maps 26 and 23, embarked on a program in 1955 to create a major port in Lake Calumet. This decision was arrived at after study and report by the Board,[3] and an economic and engineering study rendered by a consulting engineer firm.[4] The plan of development follows in general the Van Vlissingen Plan[5] approved in 1921 by the City Council of Chicago as the official plan

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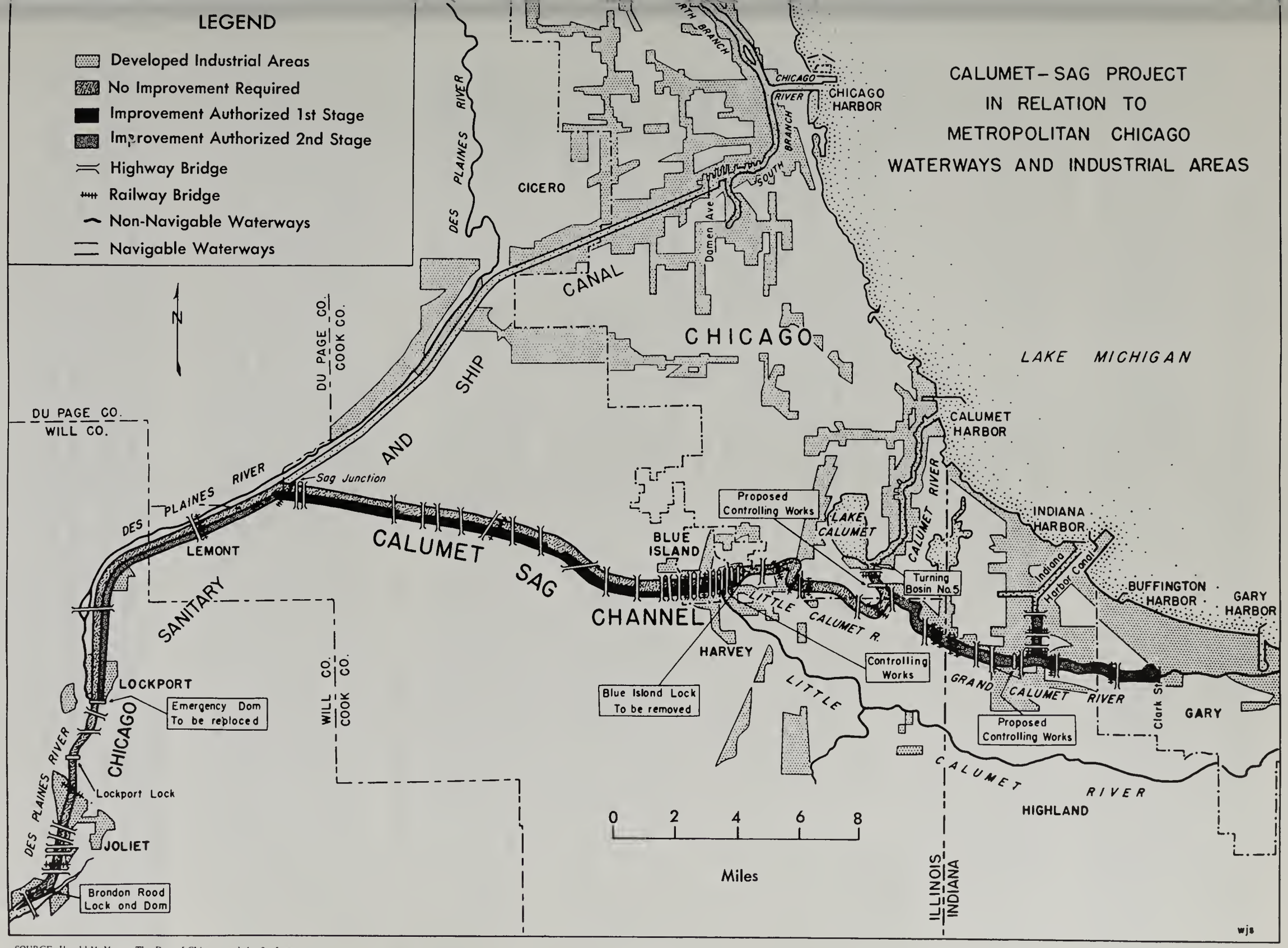
[1] DeLeuw, Cather and Company, Report on Lake Calumet Harbor Development, Chicago Regional Port District (Chicago, 1955).

[2] Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, Calendar Year 1956, Part 3: Waterways and Harbors--Great Lakes.

[3] Chicago Regional Port District, Where Two Great Waterways Meet: The First Biennial Report of the Chicago Regional Port District Board (Chicago, 1953).

[4] DeLeuw, Cather and Company, op. cit.

[5] Ibid.



SOURCE. Harold M. Mayer, The Port of Chicago and the St. Lawrence Seaway. Chicago: University of Chicago Press, 1957.

Figure 9.

Calumet-Sag Project in Relation to Metropolitan Chicago Waterways and Industrial Areas

for the development of Lake Calumet. This plan lay dormant from 1921 to 1953 except for minor harbor development in the southern end of the harbor.

The approved plan of development of the Chicago Regional Port District Board provides for 1,407 acres of land and 503 acres of water. The Phase I development completed in 1957 at a cost of $24 million used 125 acres of land and 70 acres of water area.

The Port District's future plans for the remaining harbor area includes dredging a channel for deep draft shipping in the middle of the lake as a mooring basin and access channel to slips dredged east and west from the access channel. The dredged material will be used as fill behind sheet-pile bulkheads located between the slips to provide additional land area for terminal and industrial development.

Indiana Harbor

The harbor is located about 7 miles southeast of Calumet Harbor at East Chicago, Indiana, and presently has no navigable inland waterway connection with the Illinois Waterway. It consists of a breakwater-protected area on Lake Michigan, as shown in Maps 26 and 24, joined by an outer harbor channel to the Indiana Harbor Canal extending about 1-1/2 miles inland to a turning basin at the forks where the main canal splits into the Lake George and Calumet River branches. The Calumet River Branch joins the presently non-navigable Grand Calumet River about 2 miles south of the forks. There are 7 railroad and 2 highway bridges, all movable, between the lake and the forks but which are restrictive as to width (61.7 feet to 118.5 feet) and height above low water datum (5.4 feet to 18.3 feet). Five of the railroad bridges are located in close proximity at the canal entrance and have a clear width of approximately 66 feet and a height above low water datum of about 8.5 feet. The bridges on the 2 branches of the canal are also restrictive.

The submerged lands at the harbor entrance, owned by 2 steel companies, and the Indiana Harbor Canal are lined with water-oriented industrial plants which are heavy users of lake vessels. Traffic through the harbor consists of bulk commodities, such as iron ore, limestone, and outbound petroleum products, steel and chemicals--all serving the industry located along the harbor's banks.

There is presently authorized as a part of the Calumet-Sag Channel project, discussed later, the development of the Grand Calumet River from its confluence with the Calumet River to its junction with the Indiana Harbor Canal and thence in the Indiana Harbor Canal to the head of deep draft lake navigation (See Figure 9). This development would convert the present river channel, approximately 100 feet wide and about 4 feet deep, to one of 225 feet width with a usable depth of 9 feet.

Buffington and Gary Harbors

These 2 private harbors on the Lake Michigan shoreline serve the plants of the industrial corporation which own them. There is no shoreline available for public port or new industrial development. Bulk commodities such as iron ore, coal, and limestone, make up the incoming shipments. Cement and steel shapes make up the outboard shipments.

Michigan City Harbor

The farthest east of the harbors on the Lake Michigan shoreline of Indiana is federally constructed and maintained as shown in Maps 26 and 25. The present project provides an 18 foot deep channel to Turning Basin No. 2; however, controlling depths are less due to heavy shoaling which occurs at the harbor entrance. The harbor is small and the waterfront and vicinity is highly developed with little opportunity for expansion. Traffic consists of grain shipments from a newly constructed grain elevator and local traffic in fresh fish and fish products.

Inland Waterways

The Great Lakes-St. Lawrence system and the Gulf-to-Great Lakes inland waterway system connect at only one point on the Great Lakes--Chicago. The link is actually made through 2 waterway routes: the northern route from the south fork of the Chicago River via the Chicago Sanitary and Ship Canal to Lockport, Illinois, where it connects through the Des Plaines River and Illinois Rivers with the Mississippi River at Grafton, Illinois; and the southern route which follows the Calumet and Little Calumet Rivers and the Calumet-Sag Channel to a junction with the northern route at the Chicago Sanitary and Ship Canal (See Map 26).

Chicago Sanitary and Ship Canal

This canal was designed primarily to handle Chicago's sanitary flow, but included navigation features which have permitted its use for barge traffic throughout its 30 mile length since completion of the Illinois Waterway in 1933. The Canal, 160 feet in width and 21 feet in depth, connects with the south branch of the Chicago River at South Damen Avenue and extends in a southwesterly direction to Lockport where it joins the Des Plaines River portion of the Illinois Waterway. The Canal's use as a navigable waterway has been hampered by inadequacies in width and vertical bridge clearance, and by conflicts between water and land traffic due to bridge openings. The latter problem is particularly noticeable at the northeastward end of the Canal which is in the central portion of Chicago.

Modern barge tows on the Illinois Waterway below Lockport normally consist of up to 8 standard size (35 feet by 195 feet) barges powered by large towboats (up to 3,200 horsepower). The trend is toward larger tows of 10 or more barges with more powerful towboats. The restricted channels and low bridges above Lockport limit the size of tows at 2 to 4 barges on the Chicago Sanitary and Ship Canal. Lakeward of the Ship Canal connection with the South Branch of the Chicago River, a Chicago City Ordinance limits a tow to 2 barges. Towboats of only about 360 horsepower and equipped with retractable pilothouses operate in these restricted channels at the present time.

Improvements authorized by federal projects to correct the restrictive conditions described are shown in Figure 9. In addition to channel widening the project provides for necessary alteration, removal, or rebuilding of obstructive railway and highway bridges to conform to specified widths and to minimum vertical clearances of 25 feet. It will be noted that no improvement to the restricted canal lakeward of the Sag Junction is

authorized. The land along the Chicago Sanitary and Ship Canal, as noted previously for the Chicago River and its branches, is used intensively by commercial and industrial developments with little area remaining for additional development. As will be brought out in the discussion of the Calumet-Sag Channel which follows, the improvement of the southern and alternative route will be a big step toward overcoming many of the handicaps listed above--handicaps which limit the volume and efficiency of waterborne commerce and prevent the development of land areas suitable for industrial development utilizing waterborne commerce.

Calumet-Sag Channel

The need for an adequate waterway to serve commercial navigation in the area has caused the original purpose of the Calumet-Sag Channel--to provide drainage for the South Chicago area--to be eclipsed. As shown in Figure 9, the channel links the great concentration of industry in the Calumet area, as well as the deep draft harbor formed by Calumet Harbor, the Calumet River and Lake Calumet, with the Mississippi River System, bypassing the congestion of the City of Chicago.

Phase I of the project shown on the map will be completed by 1963 by present progress estimates, including the new control lock south of Turning Basin No. 5, and remedial work on the obstructive Acme Bend just east of the present Blue Island Controlling Lock (both under construction). Phase II of the project, while authorized by Congress, has not yet received funds for construction.

The present Cal-Sag Channel, under improvement, has restrictions even more severe than the Chicago Sanitary and Ship Canal. The Channel width is 60 feet except at each of 3 passing points where 160 foot width has been provided. The bridge vertical clearances are completely inadequate. Despite the obstructions the needs of commercial navigation forced its use in the amount of 6.1 million short tons in 1957. The capacity of the channel was estimated by the Corps of Engineers in 1946 at 1 million net tons. This use beyond all expectations has been accomplished by the most careful planning and cooperation by barge operators. Further, it gives an indication of the availability of a large amount of traffic even before the improved St. Lawrence Seaway is opened. Present Corps of Engineers estimates indicate traffic within 5 years after completion of widening to a 225 foot channel at 12 million tons annually and an ultimate volume of 18 million tons or more.

Phase II of the project provides for the improvement of the Grand Calumet River, previously mentioned in connection with Indiana Harbor. Removal of bridges obstructive to navigation is also included for the entire route to the Indiana Harbor entrance. Contingent with local interests providing a public terminal for barge-rail-truck transfer, the project, as authorized, is further extended to provide a 160 feet wide channel of 9 feet depth on the Grand Calumet River from the Indiana Harbor Canal to Clark Street in Gary.

The construction of the Indiana Toll Road, as shown in Map 26, subsequent to authorization of the Cal-Sag project by the federal government in 1946 has reduced the amount of land adjacent to the proposed Grand Calumet River improvement that could be used for industrial development, particularly in the section from Indiana Harbor to Gary. A restudy of this portion of the project therefore seems indicated. In any case, a connection between

Indiana Harbor and the Mississippi River system in order to accommodate barge traffic by a route other than the open waters of Lake Michigan appears to be economically desirable. Also involved in any study of the area is the possibility of development of a harbor at the Illinois-Indiana line, as discussed later. Since barge traffic serving such a harbor would aggravate the traffic situation in the Calumet River, there appears need for a study of all possible barge routes to Lake Michigan that could eventually be developed, including a route via Wolf Lake.

The Des Plaines River

The Des Plaines River is the connecting link between the Chicago Sanitary and Ship Canal and the Illinois River. Only the reach of the river from above Brandon Road Lock and Dam at Joliet to Lockport, a distance of 5 miles, is included in the area of the proposed Port District as outlined in Chapter I. The federal project providing a minimum 300 foot wide channel--except 150 feet at bridges--a 9 foot controlling depth, and a 25 foot vertical clearance at bridges is generally complete.

Brandon Road Pool at the present time is the point of break-up of tows headed for congested waterways of the Chicago area. On completion of the Calumet-Sag project break-up will occur above Lockport for those tows headed for the Chicago area north of Sag Junction. Tows destined for the Cal-Sag will not be split up for that improved channel will be able to handle river tows. This will relieve congestion presently occurring in the Joliet area.

The Chicago District Engineer, Corps of Engineers, recommended in 1957 that duplicate locks 110 feet wide by 1200 feet long be provided on the Illinois Waterway, including Lockport and Brandon Road. Studies indicated that the practical capacity of the Waterway below Lockport, estimated at 28 million tons as limited by the existing single lock system, would be reached by 1968. The Bureau of the Budget on review of the concurrence of the Chief of Engineers in the District Engineer's report, recommended to Congress that authorization of the project be withheld and the project be reviewed in 5 years. The Bureau felt that authorization on 10 years in advance of the expected need appeared premature. The importance of this waterway to the Chicago region suggests the need for follow up through legislative channels since action on this project is now out of the hands of the Corps of Engineers.

Present traffic on the Illinois Waterway below Lockport has increased from 620,000 tons in 1935 to 20 million tons in 1957.[1]

Public Terminal Facilities

The harbors and inland waterway connections in the lower Lake Michigan area provide extensive terminal facilities, in excess of 200 piers or wharves, concentrated mainly in the near vicinity of Chicago. These facilities are largely owned and operated by private

[1] Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, Calendar Year 1957, Part 3: Waterways and Harbors--Great Lakes, p. 71.

industry and used in connection with their own operations--newspapers, steel mills, oil refineries, building materials suppliers, electric generating plants and oil tank farms. Though of extreme interest for the overall planning of land use, transportation, and increased vessel service, the capacities of the privately owned terminal facilities are not considered in this section as they are not normally available for public use and will be expanded by the private industries concerned as required by their own needs. Marine terminals are classed as public marine terminals when they are used by many shippers rather than just one. The traffic at such terminals in the Illinois-Indiana area consists of general cargo, bulk grain and coal. A review of the adequacy of existing and planned marine terminals to handle this traffic now and in the reasonable future is pertinent. The situation will be evaluated on the basis of the ships berths available, required, and planned and upon the volume of traffic which it is estimated will use them. For purposes of definition, a ships berth is more than just the necessary number of linear feet of wharf or pier to accommodate a ship. To be valid, the criterion must consider the adequacy of facilities behind the water frontage to handle modern ships and cargoes efficiently, including adequate access to land carriers.

The large barge traffic on the inland waterways is primarily handled at private terminals since it consists mainly of bulk cargo. All major terminals handle barge traffic along with their deep draft traffic. Though reference is made to barge traffic as applicable, no detailed analysis has been made in this study of barge terminal capacity.

The Estimated Operating Capacity of Marine Terminals

The principal function of marine terminals is to serve as an interchange point for freight moving via various transportation combinations of land and water carriers. As mentioned previously, private industry usually owns and operates those facilities for handling bulk cargo, leaving general cargo handling as the principal public concern in port operation. Deviations in this pattern applicable to the lower Lake Michigan area for coal and grain will be discussed separately.

General cargo terminals

The problem in handling general cargo arises not only from the wide variation in the physical characteristics of the items which make up the classification but also from changes in the characteristics of ships, materials handling, inland transportation and character of trade. Hence, terminal design must incorporate sufficient flexibility to accommodate evolutionary changes in the elements mentioned as well as to provide efficient, economical and rapid cargo transfer for present and future estimated volumes of cargo.

Principles and factors involved in design--The following general principles are applicable to the design of a modern general cargo terminal:

(1) The ship berth must be able to accommodate the standard modern general cargo vessel.

(2) The transit shed should be able to efficiently accommodate both the average inbound and outbound cargo for the port. Further, though a ship does not

usually obtain the full cargo at one port, for the sake of flexibility the transit shed should be large enough to accommodate the full cargo of the typical general cargo ship or adequate public warehousing should be reasonably accessible.

(3) Terminals should be able to accommodate the changes in mode of inland transportation serving the port--highway, barge and rail--as well as technological developments in each of these forms of transportation. The increased line haul speed of railroad operation should be reflected in delivery of cars to a marine terminal promptly after arrival at the carrier's inbound yard, thus making 24 hour switching service desirable. Further, motor carriers at many ports are handling from 50-70% of the general cargo at these ports--a marked departure from former rail supremacy.

(4) Adequate open storage areas should be provided to handle those general cargo items, often-times bulky in nature, which do not require closed storage handling. Furthermore, containerized cargo handling operations becoming prominent at tidewater ports require greatly increased open storage areas.

(5) For maximum attraction to shipping, it should be designed as a part of and integrated with facilities for handling bulk cargoes, e.g., liquids, grain, coal, chemicals, etc. This is particularly important for ports in the early development phase in order to assure full cargoes for vessels serving the port.

The United States Maritime Administration, Port Development Section, in 1947 prepared the details of a model general cargo terminal which have been universally used as basic specifications for design of such facilities.[1] Principal features include: single story, wide transit sheds with 90,000 square feet minimum per ship berth of 600 feet length, 18-20 foot ceilings, wide doors and minimum number of columns; paved pier aprons at the same level as the transit shed floor, minimum 40 feet in width, and 2 or 3 rail tracks thereon; depressed tracks and roadway for rail car and truck unloading to wide covered dock on landward side, and one end (for truck only).

Some adaption of the above design to accommodate anticipated Chicago Port operations has taken place. Chicago Harbor, Navy Pier, transit sheds as designed by Tippetts-Abbett-McCarthy-Stratton,[2] Consulting Engineers, provide 60,000 square feet of covered storage space for storage and handling of cargo per ships berth of 500-550 feet in length. This berth length range reflects the length of typical overseas cargo ships which shipping interests indicate will call at Chicago-American C2-S-B1 type with length of 460 feet and possibly a larger vessel having a length of about 480 feet which requires a 550 foot berth. The storage space of 60,000 square feet incorporates the results of studies, which are quoted by the consultants referred to, showing storage for about 3,800 tons per ships berth is required at periods of maximum demand at a modern terminal in the Port of Chicago. The

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[1]Marvin L. Fair, Port Administration in the United States (Cambridge, Maryland: Cornell Maritime Press, 1954).

[2]Tippetts et al., op. cit., p. 38.

typical C2 cargo carrier calling at a New York Pier discharges and loads an estimated 7,140 tons.[1]

The Chicago Regional Port District Board has about 51,000 square feet of transit shed per ship berth backed up by 33,000 Square feet of warehouse space per berth. The Port District Board terminal has the flexibility characteristic of comprehensive terminals of which type the Port Newark, New Jersey, facility is one of the better known.

Computations made by the previously mentioned consultants to the City of Chicago[2] arrived at 70,000 tons per year as the practical capacity in Chicago of a single berth of 500-550 feet at a modern general cargo terminal handling deep draft vessels. These figures were based on a 210-day navigation season (208 days actual for the 1958 season) and a 50 per cent berth occupancy (average for United States ports). The result was 88 days utilization per year after elimination of Sundays and holidays. Eight hundred tons per day was determined as a reasonable rate of cargo transfer, taking into consideration that a number of small 4-hatch ships will remain in the lake-ocean service and the comparatively small cargoes moving to and from Chicago. The factors mentioned appear representative of conditions that will prevail at least in the near future, and the resultant annual volume of 70,000 tons per ships berth appears to be realistic for capacity estimating purposes in the early years of Seaway operation.

Adequacy of Existing General Cargo Terminals

Public general cargo terminals in the area presently available are as follows: Navy Pier in Chicago Harbor, South Water Street Terminal in Chicago Harbor, International Steamship Terminal on the Calumet River, Calumet Harbor Terminals on Lake Calumet, and Chicago Regional Port District facilities on Lake Calumet. Their exact locations are shown in Figure 10.

Navy Pier

Navy Pier, the site of the principal general cargo operation in Chicago Harbor, was originally constructed in 1914 for the lake passenger and freight trade. On the decline of this traffic, the pier was converted to other use until in 1955 a portion of the south side of the pier was leased by the City of Chicago to a private terminal company for water terminal operation. The deficiencies in Navy Pier as a modern general cargo terminal have been generally recognized and have consisted of: (1) obsolete pier design, narrow shed, inadequate apron width on the water side, inadequate floor loading capacity; (2) poor access by truck and rail; (3) incompatability of land uses in the vicinity of the pier with large scale development of general cargo facilities; and (4) lack of open storage area. Its advantages lie in its location (1) on the lakefront, which reduces vessel operating costs by lessening towing charges and elimination of the time required to transit narrow bridge-hampered rivers, and (2) in the heart of Chicago's central business district, which permits more convenient arrangements for the general cargo and package goods originating and terminating in the downtown establishments, and for the passenger traffic which may develop.

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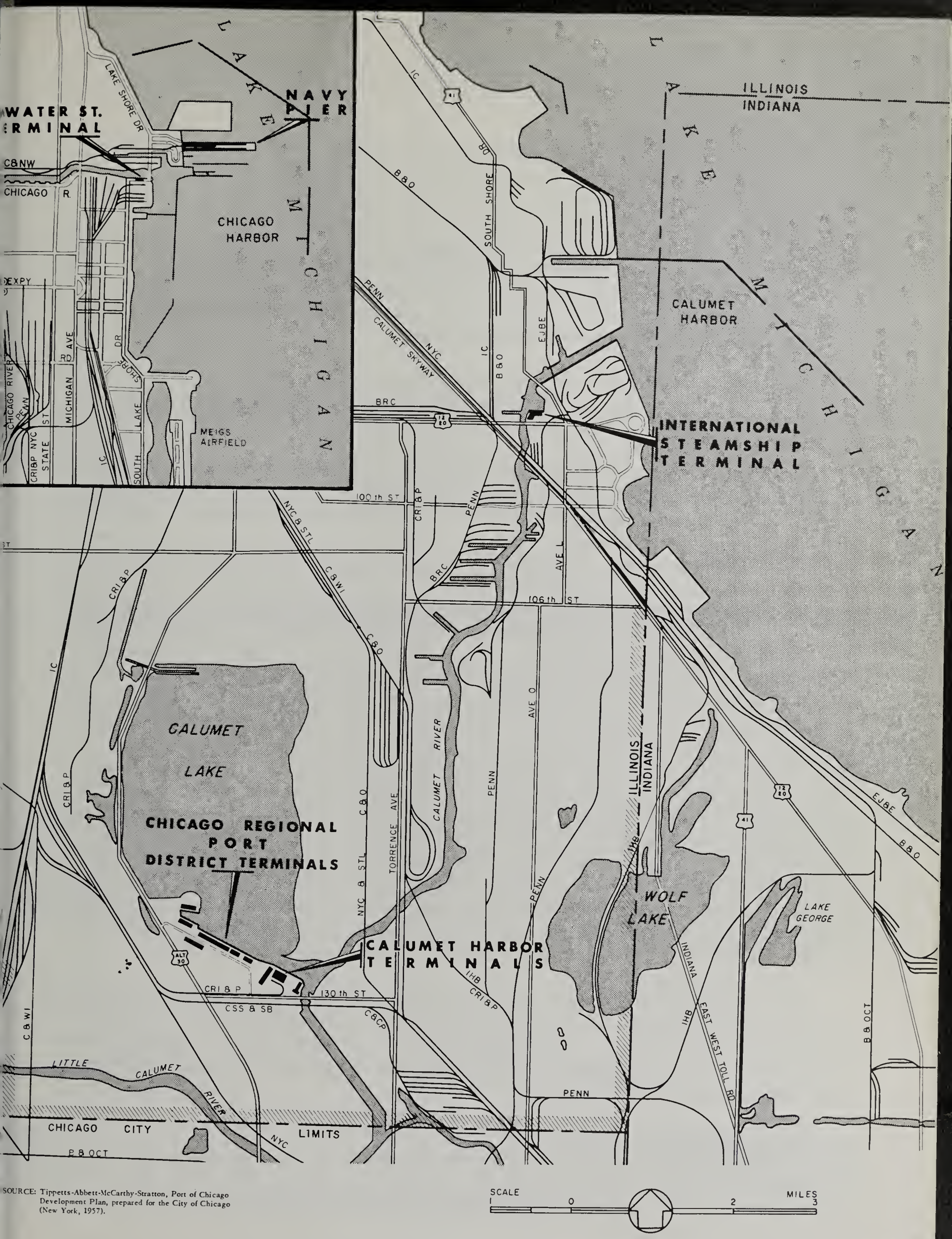
[1] Frank W. Herring, Modern Design of General Cargo Marine Terminals, paper presented at American Society of Civil Engineers Annual Convention (New York, October 18-22, 1954).

[2] Ibid.



SOURCE: Tippetts-Abbett-McCarthy-Stratton, Port of Chicago Development Plan, prepared for the City of Chicago (New York, 1957).

Figure 10.
Principal Public General Cargo Terminals – Port of Chicago

The pier is presently being rehabilitated to overcome the deficiencies listed above within the limitations of the site. The work underway will provide in 1959 about 1100 feet of berthing space and in excess of 120,000 square feet of transit shed space for two ships. The pier work is being carried out in accordance with Figure 11. Allowing an estimated annual operating capacity of 70,000 tons for each of the remodelled berths will result in an estimated annual operating capacity of 140,000 net tons at this pier on completion. Present estimates are that the construction work will be completed in August. Plans are being made, however, that will tend to minimize the interference between the rehabilitation activity and cargo handling operations.

The estimated cost of this pier improvement, exclusive of federal channel improvement costs, is $4 million, which is being financed by general obligation bonds issued by the City of Chicago.

The full improvement recommended by the City of Chicago consultants in addition to the 2 berths under construction consists of: (1) 2 additional berths on the south side of the pier for a total of 4 to be completed by 1965; (2) construction of a completely new 9 berth general cargo pier just south of the mouth of the Chicago River by about 1974. The 13 berths will add an estimated 910,000 tons to the annual operating capacity of the Port of Chicago at an estimated cost (1957 prices) to the City of $23.5 million, all recommended to be financed by general obligation bonds backed by the full faith and credit of the City.

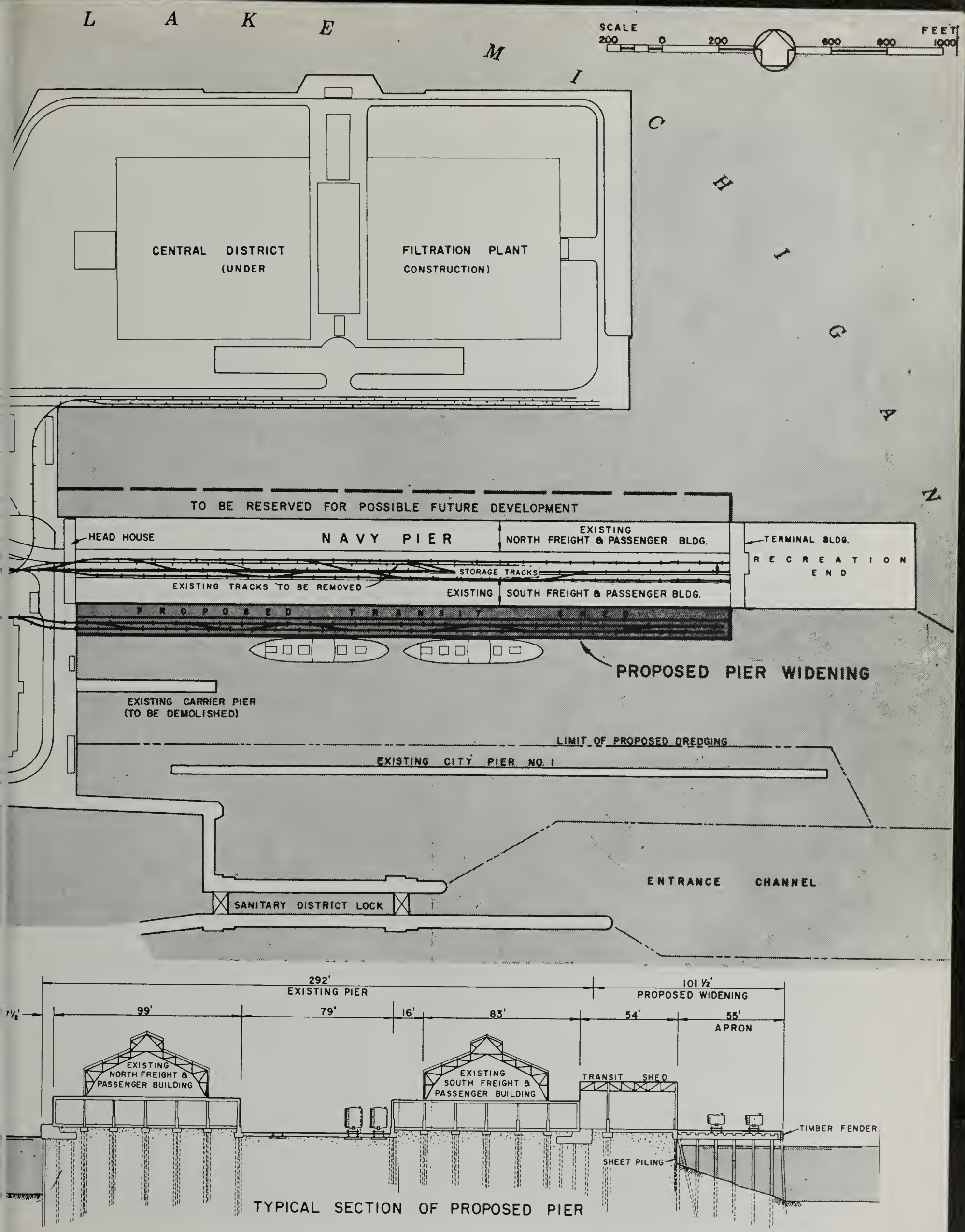
Federal harbor improvement costs for accommodating the 4 new berths at Navy Pier are estimated at $1.5 million. For the new 9-berth pier south of the Chicago River, an additional $12.6 million is required. Total federal harbor improvement costs are estimated at $14.1 million.

Total project cost is estimated at $37.6 million ($23.5 million City costs plus $14.1 million federal costs). Revenues from the recommended improvements are estimated to be insufficient to cover the City's capital and operating costs, and annual deficits amounting to $140,000 for the 2-berth facility to $632,000 ($842,000 for one year) for the full development must be met from public funds. Liquidation of these amounts from public funds were justified by the City's consultants on the basis of the economic benefits which will accrue to the port area as a result of the port improvements, estimated at a direct income of $10 to $15 per ton of general cargo or a minimum direct income in excess of $9 million annually by 1975, and from transportation cost savings to shippers.

The consultants point out that considerable time will be needed to obtain Congressional authorization and appropriations for federal construction of the additions to the breakwater system required for protection of the proposed pier south of the river; also, that requirements should be reexamined periodically and adjusted to meet the needs of the growing economy and changing shipping requirements.

South Water Street Terminal

South Water Street Terminal, leased from the City of Chicago and the Illinois Central Railroad and operated by the North Pier Terminal Company, has berthing space for one 500 foot ship, apron width of about 9 feet, 65,000 square feet of enclosed shed space covered



SOURCE: Adapted from Tippetts – Abbett – Mc Carthy – Stratton, Port of Chicago Development Plan, prepared for the City of Chicago, 1957.

IMPROVEMENT OF NAVY PIER
GENERAL ARRANGEMENT

Figure 11.

by the deck of the elevated Lake Shore Drive and 25,000 square feet of open storage. This terminal has an estimated annual operating capacity of 60,000 tons.

With the accomplishment of the planned extension of Wacker Drive this terminal will be eliminated.

International Steamship Terminals, Incorporated

International Steamship Terminals, Incorporated, owns and operates its facility at 95th Street on the east side of the Calumet River. It has 2 ships berths, one 550 foot berth and one 350 foot berth, a transit shed of 27,000 square feet with a minimum 20 foot apron, and open storage of about 175,000 square feet. A trip between Lake Michigan and the terminal takes about 1/2 hour and requires the opening of 2 bridges. Estimated annual operating capacity of this terminal is 100,000 tons.

Calumet Harbors Terminals, Incorporated

The Calumet Harbors Terminals, Incorporated, and its subsidiary the Overseas Shipping, Incorporated lease facilities at the Lake Calumet entrance owned by the Pennsylvania Railroad. Ships require about 2-1/2 hours each way to transit the 6 miles on the Calumet River to Lake Michigan. The facilities provided consist of 2 ships berths of 550 foot length, a transit shed of 50,000 square feet with ample apron width and 200,000 square feet of open storage area. Estimated annual operating capacity is 140,000 tons. This firm has also leased facilities from the Chicago Regional Port District consisting of one ships berth and 72,000 square feet of transit shed space. This latter space is included in the capacity estimated for the Chicago Regional Port District.

The Chicago Regional Port District

The Chicago Regional Port District's facilities in Lake Calumet are new and compare favorably with the most modern terminals in the United States. (See Figure 12.) All features required for efficiency in cargo handling are included: wide dockside aprons provided with railroad tracks, covered exterior rail and truck loading docks, and wide doors and high ceilings in sheds. Its 3,500 feet of berth space will accommodate a minimum of 6 vessels of 500-550 foot size. Its transit shed space of 316,800 square feet is backed up by a warehouse of 200,000 square feet and open storage of about 78,000 square feet. Its annual general cargo handling capacity is estimated at 420,000 tons. A barge-mounted heavy lift crane of 110 ton capacity is available for heavy lift service.

The two 6.5 million bushel capacity grain elevators constructed at this site have a ship loading capacity of 100,000 bushels per hour. The ready availability of grain to supplement general cargo loadings of vessels adds to the attractiveness of Lake Calumet to the shipping industry. All facilities are leased to private operators except the crane barge which is operated by the Port District.

Present plans of the Chicago Regional Port District involve construction of Phase II which will provide on the west side of Lake Calumet an additional 3,000 feet of dockage, 2 transit sheds, warehouse space of 300,000 square feet, and 2 additional grain elevators of about 6.5 million bushels each. Further, there will be added about 200 acres of land on the east side of the harbor resulting from dredge fill on which dry and liquid bulk storage

SOURCE: Chicago Aerial Industries, Inc.

Figure 12.

Air View of Lake Calumet Harbor Showing Built-up Southern End of the Development

areas, with adequate dockage, will be built. Along with augmenting existing facilities, the dry and liquid bulk handling facilities will round out the types of facilities needed for a comprehensive terminal. All these facilities will accommodate both ship and barge.

In addition to the cargo handling facilities, negotiations are underway with prospective lessees for development of extensive truck terminal facilities on the west side in order to provide interchange of truck freight between over-the-road carriers and water carriers as well as between over-the-road carriers and local delivery and pick-up vehicles. Such facilities could also be adapted to the handling of truck trailers, or trailer bodies as containers, by ships in domestic or foreign commerce.

The implementation of Phase II of the Chicago Regional Port District plan depends upon the ability to interest bankers in underwriting revenue bond issues to provide the capital for the further development of Lake Calumet. All costs incurred by the Port District Board must be met from revenues generated from its own operations. Its bond issues are backed not only by the revenue producing ability of its existing facilities, but also by those to be built. Prior to construction of a facility, such as a warehouse, a commitment by a lessee is necessary. Such rigid self-supporting requirements give maximum assurance of the financial soundness of the planned development. It may, however, delay the provision of facilities, with the result that potential harbor business will go elsewhere. In any event, the provision of facilities by revenue bond financing is always sensitive to competition from facilities financed by other methods, such as by general obligation bonds, appropriations, or special tax grants.

Full development of Lake Calumet to the extent of the scheme indicated in Figure 13 depends on several factors. One is the navigational capacity of the Calumet River to take the increasing traffic after feasible improvements to the channel and the bridges have been considered. Another is the feasibility of overcoming the rail and highway traffic congestion brought about by increased bridge openings, which will become a greater problem with increasing river and land traffic. A third factor is the effect of competition afforded by public terminal developments on the lakefront such as Navy Pier and the Burns Harbor proposal. Recognition was given the above factors by the Chicago Regional Port District Board in 1953 in their first biennial report.[1] However, the factors have not yet been sufficiently evaluated to permit plotting the full development capabilities of this harbor.

Other active marine terminals in the lower Lake Michigan area

Other active marine terminals in the lower Lake Michigan area which can handle deep draft general cargo vessels within certain limitations are listed below.

The Wacker Warehouse Company adjacent to the South Water Street Terminal on the south bank of the Chicago River is a receiving and distributing point. It receives newsprint by lake vessels and rail, and sugar by barge. Its waterfront facilities will be eliminated in the extension of Wacker Drive.

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[1] Chicago Regional Port District Board, op. cit., pp. 37-38.

SOURCE: Chicago Regional Port District, Annual Report for Fiscal Year Ending June 30, 1958.

Figure 13.

Projected Development of Lake Calumet Harbor. Present development is in the lower portion of the mock-up. A tank farm and the industrial area is shown on the right of the anchorage basin. Additional commercial facilities – elevators and transit sheds – are displayed on the left of the basin with an extensive truck terminal development on the border of these facilities.

The North Pier River Barge Terminal on the Chicago Sanitary and Ship Canal at Western Avenue receives and ships general and dry bulk cargo mostly by barge. Its use by ships is limited by the normal navigational problems of the Chicago River.

The John I. Hay Company Terminal at Santa Fe slip on the South Branch of the Chicago River at Damen Avenue also receives and ships general cargo and dry bulk cargo largely by barge. Its use by ships is similarly subject to the normal navigational problems of the Chicago River.

The Western Navigational Company Terminal on the Calumet River at 106th Street, in addition to bulk sulphur and coke, handles pig iron, steel shapes and pipe as general cargo on both the lakes and internal waterways. It is not generally adaptable for all types of general cargo as it has only an open wharf.

The Northern Indiana Dock Company Terminal on the east side of the Calumet River Branch of the Indiana Harbor Canal receives and ships scrap metal and other dry bulk cargo at an open wharf. Navigation problems on the Indiana Harbor Canal limits the usefulness of this dock.

Recapitulation

A recapitulation of the estimated annual operating capacity of the existing public general cargo terminals based on the preceding review of facilities is as follows:

Terminal	Number of Berths 500-550 ft.	Estimated Annual Operating Capacity
South Water Street.	1	60,000
Navy Pier*	2	140,000
International Steamship Terminals, Inc.	1 plus 1 330 foot berth	100,000
Calumet Harbor Terminals, Inc.	2	140,000
Chicago Regional Port District .	6	420,000
Total estimated annual operating capacity		860,000

*Portion in use for general cargo handling in 1959

Considering the general cargo commerce estimates for 1960 as developed in Table 8 Chapter III, and the discussion of these estimates, the use of a mean between the high of 920,000 tons and the low of 510,000 tons or 715,000 tons appears consonant with both Studies A and B. The mean partially reflects the larger tributary area and the better survey

coverage obtained in Study B as well as the assumption that export-import rail rates fully competitive with seacoast ports would be in effect in 1960. The latter assumption is believed overly optimistic for accomplishment by 1960 but attainable in later years. Considering the estimated general cargo commerce of 715,000 tons the lower Lake Michigan area has a surplus cargo handling capacity of 145,000 tons in 1960. Of course, this surplus could be reduced to 25,000 tons if imports in 1960 remain at 90% of exports instead of the 65% assumed by the authors of Study A. An excess of capacity is desirable for flexibility of operations, particularly in a port situated at the end of a navigation route possessing new commerce possibilities and enjoying the inauguration of new vessel service.

Adequacy of Existing Public Bulk Cargo Terminals

Coal and grain are the only bulk commodities handled at public marine terminals. Both commodities are handled at specially designed terminals equipped with the most efficient bulk materials handling equipment.

Coal Terminals

The Rail-Water Transfer Corporation Terminal on the Calumet River at 101st Street is the sole existing public coal loading facility in the area. It is owned by a number of midwestern coal companies. The terminal is served by rail and loads into lake vessels at two 750 foot docks, each equipped with a traveling loading tower. It has annual estimated capacity of 12 million tons. Shipping capacity is adequate for 1960 and the estimated 10 million tons to be shipped in 1965. Rail storage yard facilities are considered adequate for support of the loading capacity of the terminal. Estimated shipment by 1975 is 15 million tons which, though in excess of rated capacity, seems within the expansion capability of the existing modern plant.

Waterfront Grain Elevators

There are 78 million bushels of grain elevator storage in the City of Chicago of which 58 million bushels are accessible to deep draft vessels. Approximately 54 million bushels are located either on the Calumet River or on Lake Calumet with the remainder--4 million bushels--located on the South Branch of the Chicago River. The latter is not readily accessible to deep draft vessels due to navigational difficulties and delays in reaching the site.

Grain storage elsewhere in the Port area is small in comparison to the storage in Chicago and will not be considered, although a new 175,000 bushel elevator completed at Michigan City in time for the 1957 navigation season increased the tonnage handled at that port by 192,000 tons.

The estimated potential grain which might be shipped from Chicago in 1965 is 116 million bushels. The port of Baltimore with a capacity of 13-1/2 million bushels moved 102 million bushels in 12 months in 1956. That volume would reduce to 61 million bushels if applied to the short navigation season on the Great Lakes. This would indicate 4 turnovers a year, which would produce a shipping capacity in excess of 216 million bushels at the Port of Chicago based on the 54 million bushels of waterfront grain storage capacity. Such a capability appears more than adequate for potential grain commerce expected through 1965.

Future Requirements for Public Water Terminals

The waterborne commerce potentially available at general cargo public terminals in the lower Lake Michigan area in 1965, 1970 and 1975; the needs of the area for additional terminals based on the estimated waterborne commerce; and the estimated present annual operating capacity of existing terminals is summarized in the following table:

TABLE NO. 12

ESTIMATED ADDITIONAL PUBLIC GENERAL CARGO TERMINAL CAPACITY REQUIREMENTS
(in tons)

	1965	1970	1975
Estimated Annual General Cargo Commerce*	850,000 (1,120,000)	1,260,000	1,680,000
Estimated Annual Capacity of Existing Terminals**	800,000	800,000	800,000
Estimated Additional Annual Capacity to Meet Minimum Requirements	50,000 (320,000)	460,000	880,000

*From Table 8, Chapter III.
**Capacity does not include South Water Street Terminal.

The above table indicates that based on the estimated growth of the annual cargo commerce in the area assumed as tributary to the port region, existing public general cargo terminal capacity will become inadequate to meet the estimated general cargo commerce volume during the period 1960-1965. The amount of the inadequacy is indicated to be between 50,000 and 320,000 tons. Since the latter estimate is based on a commerce study completed in 1959 with assumptions believed attainable during the period, use of the 320,000 ton figure is believed a conservative approach. Normally, an established port has excess terminal capacity to meet peak demand. Chicago's estimated 25,000-145,000 tons of surplus capacity in 1960 is reduced in the following years by the elimination of the South Water Street Terminal, as noted, and increased commerce. Due to the deficiency forecasted for the 1960-1965 period, it would seem advisable, as a minimum, to have firm development plans available for prompt construction of additional terminal facilities at the most suitable site or sites in the lower Lake Michigan area. Their provision early in the period, say by the start of the navigation season of 1962, would provide some flexibility

in meeting the added commerce from completion of waterways improvements allied to the Seaway. Construction time required for the additional facilities probably necessitates a decision to be made based on careful review of the commerce experience in the 1959 navigation season.

It should be borne in mind that all estimates are based on intensive and continuing promotional effort on the part of all agencies concerned with waterborne commerce at the port, as well as relentless effort applied to obtain favorable land carrier rates enjoyed by tidewater ports. Chicago's preferred position at the head of deep draft navigation and at its junction with the inland waterway system is recognized but requires exploitation to achieve maximum benefits.

Location of Future Terminals

In preceding portions of this Chapter there has been outlined the development plans of the principal harbors in the area, i.e., Lake Calumet and Chicago Harbor. Each has plans for increasing its facilities. The City of Chicago is proceeding in accordance with plans prepared by their consultants for modernizing the south side of Navy Pier for general cargo handling. Lake Calumet is negotiating to get Phase II of their development under way as quickly as capital requirements can be furnished by the revenue bond underwriters. In addition, the State of Indiana is seeking approval of the Corps of Engineers for federal participation in a public lakefront harbor at Burns Harbor, which would include general cargo and bulk cargo handling facilities. Both the Waukegan Port District Board and the City of Michigan City, Indiana, are desirous of full participation in Seaway commerce by harbor deepening and breakwater construction by the federal government with local participation. In fact, federal participation looms large since channel deepening and channel maintenance is required, as a minimum, at each harbor, and breakwater construction and major channel rectification and bridge replacement is required at others.

Further, there remains a great deal of interest in the possible construction of a lakefront harbor at the Illinois-Indiana State Line first proposed in 1918 by Colonel W. V. Judson, Corps of Engineers; reported on in 1923 by a joint Illinois-Indiana Commission which recommended deferring action on the project; recommended again in 1927 in the Harbor Plan of Chicago; recommended by the Chicago Regional Port District in its first report rendered in 1953; and recognized as a possible future need by the consultants to the City of Chicago in their report of 1957.

There appears to be wide recognition of the desirability of lakefront locations for harbor facilities. A review of specific comments and recommendations on the subject in recent years may be helpful. The Chicago Regional Port District, in its 1953 report, had this to say on the subject:

"REQUIREMENTS FOR LAKEFRONT HARBORS

> "Any plans for development of port and harbor facilities for the Chicago Region must meet several primary requirements. These are: (1) sufficient land for extensive industrial development, (2) access from Lake Michigan by the largest vessels which now or in the future will operate on the Great Lakes, (3) freedom from the necessity

of passage through restricted river channels, or through bridges, the opening of which would delay land traffic, (4) adequate access to and from the inland waterway system by barges, without necessity of open lake navigation, (5) good landward access to all parts of the Chicago region which now or in the future may be developed industrially or commercially, by rail and truck, preferably over belt railroads and express highways, and (6) avoidance of areas where industrial and terminal operations would be restricted because of proximity to residential or other incompatible land uses.

"Because the economic base of the Chicago Region depends in large measure upon its existing and future industries, and the industries depend either directly or indirectly upon the adequate low-cost transportation, the provision of facilities for industrial expansion and for terminals in areas which are primarily suited for such development should take priority over alternative uses of such areas. Residential and park uses of land are considerably more flexible in their locational requirements than are industrial and transportational uses.

"Chicago Harbor has several noteworthy advantages for development as a commercial port terminal area, rather than as an industrial harbor. It is located near the central business district and the principal wholesale distribution centers of the Chicago Region. It is directly served by existing major highways of regional importance and it will be directly connected to the express highway system which is planned and under construction. A large portion of the harbor is directly accessible by large vessels from Lake Michigan without the necessity of passage through bridges, restricted channels, or locks. Railroad services are available, or could easily be extended, to all parts of the harbor shoreline. On the other hand, because of high land values and limited available areas, it would be impracticable and inadvisable to develop extensive industries in or near the Chicago Harbor. The future use of Chicago Harbor, therefore, will be as a commercial port terminal area for general cargo, and as an area of direct interchange of cargoes between lake and ocean vessels on the one hand and inland waterway barges, railroad cars and motor trucks, on the other.

"The necessity for eventual development of a new industrial and commercial harbor and port terminal area in the Calumet district, preferably near the state line, is indicated by (1) the rapid expansion of industry in the Calumet district, (2) the lack of large tracts for future industrial development in the district which are accessible directly by deep draft masted vessels without necessity of passage through the Calumet River, and (3) the probability that the capacity of the Calumet River channel for the handling of water-borne commerce will be reached following completion of the Calumet-Sag Project and the development of Lake Calumet. The future proposed harbor and terminal area on the shore of Lake Michigan in the Calumet district will, therefore, be primarily as an industrial harbor, but with important commercial traffic as well.

"The proposals for development of terminal facilities at Chicago Harbor and of additional land areas for industrial and terminal development in the Calumet district are

not contingent upon the enlargement of the St. Lawrence Seaway. However, completion of the Seaway project, whether by the United States and Canada or by Canada alone, will bring considerable additional water-borne commerce to the Chicago Region. Most of it will be handled in ships of deeper draft than the present harbors and channels can accommodate. The Region must be prepared to take advantage of the opportunities for additional industrial development which would be opened by the Seaway enlargement, and the resultant availability of extensive steamship services to and from overseas points. It must be prepared to deepen and enlarge its harbors to accommodate the deeper-draft ocean shipping.

"The plans for harbor and port terminal development which are recommended in this report, if carried out, will provide the necessary accommodations for ships and traffic that will reach the Chicago Region through the enlarged Seaway, but, on the other hand, the Seaway traffic is not essential for economic justification of the proposed harbor and port terminal improvements and additions.

"RECOMMENDATIONS

"The Chicago Regional Port District Board recommends:

"Early development of Chicago Harbor by an appropriate public agency as a commercial port terminal area, including the provision of public facilities for handling general cargo;

"Eventual development in the Calumet district, in collaboration with appropriate agencies of the State of Indiana on artificially reclaimed land, of an industrial port terminal area capable of accommodating the largest present or future vessels on the Great Lakes;

"Immediate purchase of shoreline and riparian property along Lake Michigan just west of the state line in order to establish the public interest in the area which is now available for development of a lakefront harbor in the Calumet district, and access to the industrial and terminal areas to be developed in conjunction with such harbor;

"Study, in collaboration with agencies of the State of Indiana, of the effects of development of the proposed Burns Harbor upon the traffic and industrial potentials of the harbors and terminals of the Chicago Region within the State of Illinois;

"Study of the possibilities of harbor development along the Lake Michigan shore between the Calumet district and the Chicago River, leading to appropriate modifications of the boundaries and locations of the harbor districts which are now officially designated by the City of Chicago."[1]

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[1] Ibid, pp. 77-78.

It should be borne in mind that the above quotation was preceded by a recommendation in the same report for the development of Lake Calumet, worded as follows:

> "The Chicago Regional Port District Board, in its development of Lake Calumet, should construct and lease to private operators a comprehensive ship-barge-rail-truck terminal at the south end of Lake Calumet, regardless of the extent of development of the remainder of the Lake Calumet Harbor."

This latter recommendation was followed by these remarks pertaining to Calumet Harbor:

> "The areas for handling of such bulk commodities cannot be located near the high valued land of the central Port of Chicago, but on the other hand must be conveniently located with relation to the large industries which produce the tonnage. Thus, there is evident a need for continued development of port terminals even after the improvement of the Calumet-Sag Channel, Lake Calumet, and the Calumet River. Furthermore, deep draft vessels will seek to avoid, if possible, the 6-mile transit through the restricted channels and the bridges of the Calumet River into Lake Calumet. The latter, therefore, although planned to handle lake and ocean shipping will be primarily a barge harbor. Most of the larger vessels will require terminal facilities on Lake Michigan.
>
> "In order to include sufficient area for adequate development of a modern port terminal, and at the same time to avoid encroachment upon the present navigable channels of the existing Calumet Harbor, any land reclamation must inevitably extend across the state boundary into Indiana. An agency whose jurisdiction is confined to the State of Illinois cannot, therefore, develop such a proposed port terminal area alone, but must collaborate with appropriate agencies of the State of Indiana.
>
> ". . . shows a suggested layout for a harbor on Lake Michigan at the Illinois-Indiana state line. The Port District Board urges that this plan, or other comparable plans, be subjected to economic and engineering studies.
>
> "Any action relative to harbor development in collaboration with the State of Indiana would involve determination by that state of the relative advantages of the suggested outer harbor development at the state line as compared with the site which the State of Indiana has recommended at Burns Ditch, east of Gary."[1]

Except for action involving Calumet Harbor, developments in the Illinois portion of the port region have followed generally the recommendations of the Chicago Regional Port District Board in their first report, including those recommendations for changes in the Port District Act which have been introduced in the General Assembly. However, their recommendation that the area of jurisdiction of the Port District Board be extended to include all of the City of Chicago and southwest to include Brandon Road pool has never been proposed in legislation nor is it contemplated, according to the Board's representative[2] before this

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[1] Ibid, p. 73.

[2] Remarks made by Maxim M. Cohen, General Manager of the Chicago Regional Post District, before Illinois-Indiana Bi-State Development and Study Commission, August 19, 1958.

Commission on August 19, 1958, who stated: "We have a pledge and a covenant with the city and incidentally with the state to build a harbor in Lake Calumet and I think our first obligation is to do that particular job." Further, their recommendation that "cooperative studies be made and relations established with appropriate agencies of the State of Indiana, leading toward integration of the plans for harbor and port development in Illinois with existing developments and proposed new facilities in the State of Indiana" has not been implemented.

The City of Chicago's plans for Chicago Harbor, which have been discussed earlier in this chapter, are in accordance with earlier recommendations of the Chicago Regional Port District Board for development of general cargo facilities in Chicago Harbor. The City's consultants, in justifying this location, stated, "The principal locational requirement for a general cargo terminal serving deep-draft shipping is safe, rapid and unobstructed access for modern vessels." This report also stated, "The towage and time costs for a typical Seaway general cargo vessel calling at Lake Calumet would total about $2,048 for each visit, while the comparable costs for a vessel calling at Chicago Harbor would be about $202 per visit." The position of the consultants is fully explained in the following quoted summary:

> "The higher costs for vessels calling at terminals on the Calumet River, the Chicago River, and Lake Calumet reflect the delays and difficulties of navigation to these sites as compared to lakefront sites, and, together with navigational dangers of the inland passage, emphasize the advantages of the lakefront as a general cargo terminal location at the Port of Chicago. The Lake Michigan lakefront should be the site of any additional public general cargo terminal facilities required at Chicago if it is to meet competitively the challenge of other lake ports with the opening of the Seaway. Shipping interests strongly support this view, and all previous studies of Chicago's port problems have emphasized not only the suitability of Lake Michigan sites but the high desirability of their development."

The State of Indiana is a further proponent of lakefront harbor development in the form of a new harbor at Burns Harbor, having the location shown in Map 26. First made in 1949 by the Indiana Board of Public Harbors and Terminals, the proposal envisages an artificial harbor providing terminal facilities for bulk and general cargoes. Purchase of land in the area by Bethlehem Steel Company suggests primarily an industrial harbor. The State of Indiana in 1957 appropriated $2 million for purchase of a site subject to its approval as a federal harbor project by the Corps of Engineers. Earlier proposals were not acted on favorably by the Corps of Engineers.

The desirability of the lakefront as a site for major public terminal development appears to be well established. Study is required to determine the availability of an economically and physically suitable site which provides rail, truck and unobstructed deep draft vessel and inland waterways barge access to a comprehensive and integrated harbor development of the size required to provide for the future efficient handling of waterborne commerce in the area.

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[1] Tippetts et al., op. cit., p. 36.

Through the excellent planning and follow-through of the Chicago Regional Port District, the lower Lake Michigan area has an excellent and substantial start towards a harbor and terminal facility, comprehensive and modern. The financial report for the first full year's operations, showing revenues exceeding estimates by 11 per cent on a self-supporting basis, furnishes proof of the calibre of management. The completion of Phase II will provide liquid handling and storage facilities, and add to open and closed storage areas. It will also give access to the planned large industrial portion of the harbor. The limitations on Lake Calumet for deep draft vessels are the limitations of the Calumet River, which have yet to be determined.

Summary

Harbor studies since 1953 have concentrated on limited portions of the port region. The Waukegan Port District, the City of Chicago, the Chicago Regional Port District, the State of Indiana Board of Public Harbors and Terminals have all had studies of this type prepared. A port development plan for the region, supported by engineering and economic studies, seems necessary if overbuilding and wasteful duplication is to be avoided. Each public harbor in the region appears highly interested, in fact dedicated to its own separate development.

The results of the preceding review of terminal facilities existing or to be available in 1959 in the lower Lake Michigan area shows the availability of adequate facilities for handling the deep draft traffic forecasted for 1960 by the most recent estimates from competent and accepted sources. Indications are that additional facilities may be needed by 1962. All traffic estimates are based on various assumptions and conditions which events may prove to be invalid; however, such traffic estimates are valuable for guidance which can be refined as a result of initial years of Seaway operation. World economic conditions as well as the political situation, the European Common Market, and U. S. policy on trade and foreign aid are a few pertinent factors, to say nothing of the results of local efforts in the direction of export-import freight rate adjustments and port promotion, and progress on harbor and connecting channel deepening. These variables emphasize the dynamic nature of port development planning for the area. Planning features of port evolution are aired more thoroughly in Chapter VIII.

Each harbor has development plans. There is a lack of assurance of coordination between various harbor plans in the region.

Inland waterway and harbor improvements projects require the continued backing of local interests, the initiation of studies in some cases, and reviews of existing studies in others.

The next chapters will deal with port administration, port finance, port planning, and port promotion requirements bearing directly on the problem.

CHAPTER VI

PORT ADMINISTRATION REQUIREMENTS

The lower Lake Michigan area, consisting of the harbors and inland waterways connections previously described has been generally accepted as a regional port. The port region, to meet the dynamic growth ahead, requires the timely provision of terminal facilities and waterways improvement in the region; effective trade development, including port selling and favorable freight rate adjustment; and integration of port planning with federal, regional and local planning to assure port support.

In the past, the development of waterways and harbors has been largely by federal, state and local governmental organizations while terminal facilities have been mainly provided by private industry primarily to handle bulk commodities. This pattern is typical for most ports as private industry has generally been reluctant to invest in general cargo terminal facilities because of the low margin of profit, if any, from the large investment required. Consequently, when the need arose for general cargo terminals, there came a requirement for the entry of public agencies with their ability to obtain long-term financing at attractive rates, plus the ability, if necessary, to engage in deficit financing until cargo patterns developed to a profitable level. The federal government has also spurred this trend by making harbor and waterway improvement appropriations contingent on the provisions by local interest of water terminal facilities, among other tangibles.

The provision of these facilities created a public awareness of the many trade interests involved in a port's daily operation and recognition of the port as a gateway of economic benefit not only to the local metropolitan area but to the large area making up the hinterland of a port. The concept which had been growing up of a port as a business enterprise rapidly gained adherents. The economic turn which the public interest in ports took was further heightened by a need for the advancement of commerce to maintain the competitive position of the ports. This further economic twist brought the political boundaries under fire as being restrictive since economic matters are governed more by physical limitations such as the shores of a harbor, extent of an industrial area or limits of a transportation facility rather than artificialities such as state, county or municipal lines. So we have today the port administration agency commonly exercising jurisdiction across governmental lines as a business enterprise. The success of ports with established control and administration of the development and promotion of the port on a regional basis has been a further compelling force.

Any activity in connection with the development, improvement, or operation of the harbor and harbor facilities by any agency, including in its broadest sense federal, state and local government agencies, is an aspect of port administration. However, the activities of federal agencies are viewed as activities to be coordinated by local administrations rather than as port control. The interest of the federal government stems from its constitutional authority, actually granted by the state, to provide for national defense and to protect and regulate interstate and foreign commerce. The state, on the other hand, exercises any degree of control over its public waters it desires, provided it is done in a manner which does not conflict with the powers it previously delegated to the federal government. The interests of both, as well as local agencies, will be discussed in this chapter.

The question will also arise as to "what is the difference between a port administration and a port authority?" A port authority is a port administration but the reverse is not always true. Normally, a port administration is considered to be a port authority when it controls the waterfront of the given port area. This distinction will be further brought out later in a discussion of the powers and duties of port administration agencies.

Port Administrative Agencies - Types and Functions

The brief review of the types of port administrative agencies found at United States ports covered in this section will include the powers and duties commonly performed by a port administrative agency.

Types of Port Agencies

There are 3 commonly recognized types of port agencies based on consideration of their governing organization and their legal powers. Actually all port organizations are state created either by specific legislative act, general legislative act, or under powers delegated to counties or municipalities.

The public corporation

As a corporation it is an entity for legal purposes recognized by the courts and can incur debt payable only from its own revenues since it has no power of its own right to levy taxes. Though limited to the powers granted by the creating governmental entity, it is designed to provide freedom of action to carry out its functions in a bi-partisan political climate. While sometimes referred to as independent of any political unit, it is in fact subordinate to the chief executive and legislature of the state of location. It is usually exempt from taxation, has power to use its income and may accept grants. Its governing body is a commission consisting of appointees of the chief executive of the sponsoring agency, and in some cases of the major governmental units included in its jurisdiction.

The jurisdiction of this type of agency may be multi-state, statewide, or local (county, municipal or a combination of the two). Examples of the various jurisdictions are as follows:

Bi-State jurisdiction
- Port of New York Authority (New York and New Jersey)
- Bi-State Development Agency (Missouri and Illinois)
- Delaware River Port Authority (Pennsylvania and New Jersey)

State-wide jurisdiction
- Virginia State Ports Authority
- South Carolina State Ports Authority

Local jurisdiction
- Chicago Regional Port District
- Niagara Frontier Port Authority, Buffalo, N. Y.

The governmental department agency

This type of port administration may be a department of a state, county, or municipality. As an agency of the creating governmental body, it has only the powers delegated to it, and the funds provided by that body. The agency may be either the executive or commission type. If the commission type, the commission members are normally appointed by the chief executive of the governmental agency and answerable to him as a department. In the executive type, the duties and responsibilities are performed by a normally constituted department of a governmental unit under the supervision of a department head.

Representative types of local jurisdiction are:

Department of the Port of Chicago, City of Chicago
Department of Marine & Aviation, City of New York
Board of Harbor Commissioners. City of Milwaukee

The independent governmental agency

An agency of this type has the power to incur debt payable from its own revenues or from tax monies resulting from taxes levied by itself as approved by the voters of the area of jurisdiction. It may be a state, county, multi-county, or municipal body with the governing body made up of commissioners appointed by the chief executive of the state or city, County Board of Commissioners, or elected by the voters of the governmental unit or district. It derives its powers from the governmental body creating it, These powers are usually extensive and all inclusive in port control. It is usually exempt from taxes. Several examples of this type of agency with local jurisdictions are:

Toledo-Lucas County Port Authority, Ohio
Waukegan Port District
Joliet Regional Port District

Common Functions of Port Administrations

The preceding illustration of the more important types of port administrative agencies indicate the variety of agencies in being by method of creation; nature, powers, and method of appointment of its governing head; territorial jurisdiction, and general methods of financing. Since all of them seek to meet the requirements of port administration, an analysis of the functions commonly performed by the various agencies should give the functions necessary for adequate port administration. [1]

The following are the common functions performed:

1. Planning, coordination and construction of port development projects
2. Maintenance and leasing of publicly-owned ports and port-related facilities
3. Acquisition of land and facilities required for port development, including the right of eminent domain
4. Promotion of traffic and trade through the port and maintenance of port statistics
5. Representation of the interests of the port before federal and state agencies

[1] Adapted from Fair, op. cit., p. 50.

6. Regulation of vessel navigation, moorage, and berthage within the port
7. Regulation of uses of riparian property and modifications thereof
8. Raises funds to meet financial needs.

Port Administrative Agencies in The Lower Lake Michigan Area

Responsibility for port administration in the area is divided among many agencies, federal, state and local. The primary responsibility is that of local public or private agencies, however, the activities of a number of federal agencies in the development and operation of harbors and waterways is substantial. The many agencies concerned with harbor and waterway development and improvement, including construction of terminal facilities, suggests centralization of port development planning in an agency devoted to that purpose as assuring an initial step toward timely provision of facilities without wasteful duplication of effort, uneconomic expenditures, and dissipation of land resources.

Federal Activity Related to Ports

The activities engaged in by the various federal agencies effecting the operation of ports including the lower Lake Michigan ports, is briefly reviewed below. As will be noted some of them relate to development improvement of channels and facilities, and others to regulation of cargo, passengers, ships, personnel and baggage.

The relationship between the federal government and local interests which generally applies regardless of the agency involved was highlighted in an address by Major General Louis J. Rumaggi, North Central Division Engineer:

> "Although the Transportation Act of 1920 stated, and I quote: 'It is the policy of the federal government to promote, encourage and develop water transportation, service and facilities' end of quote, and called on the Secretary of War to carry on investigations toward these ends, the planning for improvement of specific Great Lakes harbors by the Corps of Engineers derives its primary impetus from local interests. Such indicate their views to their Congressional representatives protesting that an improvement is needed in the interest of general navigation. Even though the federal government should take the lead in, and bear the cost of, such planning, local interests should participate actively in the studies including, finally, the opportunity for the Governor of the state to express his views on the proposed improvement prior to its submission to Congress. A local organization capable of cooperating with the federal government must be developed." [1]

The Corps of Engineers, United States Army

The performance of regulatory and development functions as pertains to the navigable waters of the United States has been assigned by Congress to the Corps of Engineers. They

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[1]Major General Louis J. Rumaggi, Division Engineer, U. S. Army Engineers, North Central Division, paper given at the Symposium on Port Organization and Administration, sponsored by the Great Lakes Commission, Chicago, November 10, 1958.

are delineated by statute and are designed to protect, improve and develop the navigable waters, both harbors and inland waterways. To carry out its responsibilities for river and harbor improvements the Corps of Engineers employs definite procedures which it is well to understand. In brief, they are: (1) local interests initiate a request for a project through their representatives in Congress; (2) Congress approves the request and directs the Chief of Engineers to conduct a preliminary examination of the project; (3) results of the preliminary examination conducted by one of the Corps' field offices, e.g., the Chicago District, Corps of Engineers, are then reported back to the Chief of Engineers, through the field organization and the Board of Engineers for Rivers and Harbors (an entity of the Chief of Engineers responsible for planning and orderly development of river and harbor improvements); (4) the project is then sent back to the District Engineer for survey and preparation of a plan which includes economic justification and engineering analysis; (5) on approval by the Chief of Engineers of the survey and plans, they proceed through the Bureau of the Budget (the President's reviewing authority), the Secretary of the Army and thence to Congress for deliberation. If adopted by each agency and approved by the President, the project is then an authorized project and subject to accomplishment by the Corps of Engineers, on selection from the list of authorized projects; (6) as funds are appropriated for river and harbor work, projects are selected from the authorized list for accomplishment in the order of their importance.

Local interests should realize their responsibility in obtaining an improvement. They must justify it initially to Congress; they must present their justification to the District Engineer at public hearings when held by him; they must obtain the assistance of their members of Congress in securing an appropriation, and the competition is keen; they must provide assurance that local cooperation in furnishing rights of way, spoil areas, terminal construction, etc., will be forthcoming. Time, effort, and funds are involved.

United States Customs Service

An entity of the Treasury Department, its functions are related to entrance and clearance of vessels; enforcement of customs laws, including the Foreign Trade Zone Act and Anti-Dumping Act; gathering of statistical information on vessel cargoes and movements; acting as an enforcement agent for the Public Health Service and the Bureau of Animal Industry. Controls exercised by this agency over cargo, passengers and ships are important to efficient port operation.

United States Coast Guard

A part of the Treasury Department in peacetime and an arm of the United States Navy in time of emergency, it is charged with enforcement of laws relating to marine navigation; administering laws, promulgating and enforcing promotion pertaining to safety of life and property on the high seas and water adjacent to the United States; operating aids to marine navigation and providing rescue facilities over the high seas and waters of the United States; control of licensing of United States flag vessel personnel, including pilots licenses; ice breaking operations in channels and harbors; general maritime enforcing agency for the Corps of Engineers, quarantine, immigration, tariff and revenue agencies.

The Immigration and Naturalization Service

Under the Department of Justice, this agency is responsible for the administration of the immigration laws which involves, inter alia, the boarding of ships.

Federal Maritime Board and Maritime Administration

Under the jurisdiction of the Department of Commerce, the Maritime Administration role in the port field is divided into three general categories, namely: regulation, development, and national emergency planning.

The Administration's regulatory authority consists of determining, ordering and enforcing just and reasonable regulation and practices for terminal operation in connection with common carriers by water, and to approve cooperative agreements entered into by common carriers, by water terminal operators and others to bring about stabilized conditions and benefit the conduct of trade.

Responsibilities of the Administration in port development consists of encouraging, promoting, and developing ports and transportation facilities in connection with waterborne commerce. It includes research on cargo handling methods, terminal design, and consultant service to individual ports on request. In national emergency planning, the Administration has responsibility for developing a program for port operation in case of national emergency. This involves emergency port operation planning at both the national and local port level.

Further, this agency is required to determine the ocean services, routes and lines from United States ports which are determined to be essential for the promotion and development of the foreign commerce of the United States. The results of determination that a trade route is "essential" is to make available to the American Merchant Marine operating and construction differential subsidies by the federal government, thus increasing ship service to a port or range of ports.

The Department of Agriculture

Through its branches, the Board of Plant Quarantine and the Branch of Animal Industry, enforces the laws of the land pertaining to the importation and exportation of plans, plan products, animals, and animal products. While the former agency obtains assistance of the Public Health Inspector in inspection, the Branch of Animal Industry performs its own inspection.

Summary

The outline presented of the activities of the principal federal agencies involved in ports of the United States, including the Great Lakes, clearly establishes the magnitude and importance of these operations to the development of a port and the commerce that flows through it. The coordination required by the port administration concerned is of a high order and self-evident. Furthermore, upon considering the national scope of these agencies--most of which are organized with regional offices, e.g., Customs Districts, Coast Guard Districts, Engineer Districts, etc.--there arises the need to assure

that the resources of these agencies are being used to the best advantage of the area. Emphasis has been placed on the desirability of having a local organization so constituted as to be capable of cooperating with and giving guidance to all the federal agencies engaging in port-related activities. It must be borne in mind that local interests initiate the new federal work projects, provide the impetus for their adoption as federal planning projects, and participate actively in the study and planning stage.

State and Local Agencies

Many state and local administrative agencies in both states have responsibility for performing some or all of the common port administrative functions previously listed in at least a part of the proposed port district. The state is sovereign in all questions of jurisdiction over the navigable waters, subject to its grant of powers to the United States Constitution. Therefore, it may exercise such control over public waters as it may desire provided it does so in a manner not in conflict with the powers exercised by the federal government. The state's protection of the public's interest in navigable waters centers on conservation of the natural resources such as submerged lands, mineral deposits, and water power; preservation of law, order and public safety; sanitation and health, navigable channels; and harbor water areas.

Each state has in turn conferred on their respective cities and villages broad powers to protect the local public's interest in navigable waters and the acquisition, construction, maintenance and operation of public water terminal facilities, including the means of payment for improvements.

In addition, in Illinois there have been three port authorities created by the state with control over waterfronts and waterfront activities included within the defined limits of the respective port districts. In all cases the port districts include areas beyond the corporate limits of a municipality, thus involving more than one unit of government.

In Indiana no port authorities exist outside of the municipalities themselves and control over harbor matters remains with the municipalities.

Within each state certain agencies' activities are worthy of special mention. In the State of Illinois they include the Illinois Department of Public Works and Buildings and its Division of Waterways, the City of Chicago, the Waukegan Port District, the Joliet Regional Port District, the Chicago Regional Port District, the Northeastern Illinois Metropolitan Area Planning Commission, the Chicago Park District, the Metropolitan Sanitary District of Greater Chicago. In the State of Indiana the main agencies with special related interests include the State Department of Conservation, the Indiana Flood Control and Resources Commission, the Indiana Board of Public Harbors and Terminals, the Indiana Highway Department, the Cities of Hammond, Whiting, East Chicago, Gary, Michigan City and the planning boards of Lake, Porter and LaPorte Counties. Legislation permitting the establishment of other agencies is of interest.

The State of Illinois

The Department of Public Works and Buildings--This State Department with its two divisions--the Division of Waterways and the Division of Highways--is concerned with waterways and port development. The former has the interest of conserving the public's interest in navigable waters with regard to channels for navigation, water areas for harbors, submerged lands, management of the Illinois-Michigan Canal lands, and the State Barge Terminal and adjacent grain elevator on the West Fork of the South Branch of the Chicago River. The latter's concern is with land transportation facilities, highways and bridges--including activities of the Illinois Toll Road Commission--, which may present conflicts with water transportation needs.

The City of Chicago--Within its boundaries it has the powers granted by the State of Illinois to all municipalities to accomplish port development within its own boundaries, except for certain areas under the jurisdiction of the Chicago Regional Port District, the Chicago Park District, and the Metropolitan Sanitary District of Greater Chicago. It has the power to perform all the common port administrative functions previously outlined, including raising capital by issuance of bonds backed by the faith and credit of the city.

The newly created Department of the Port of Chicago on January 1, 1959, assumed the responsibility as a department of the City government for the operational and administrative duties pertaining to waterways and harbor areas, including port promotion and protection, and port development (exclusive of design, construction and maintenance which remain with the Department of public Works). The Bureau of Rivers and Harbors of the Department of Public Works was formerly the Port administrative agency of the City. The Chicago Department of City Planning has the responsibility for preparation of a comprehensive plan for the development of the city within the city limits. Such a plan should make provision for the necessary waterways, harbor and water terminal development for the proposed District as it pertains to land use, zoning and traffic plans in the City of Chicago.

The Chicago Regional Port District--This port authority of the public corporation type was established by the State of Illinois in 1951 to prepare port plans and accomplish harbor improvements in an area prescribed by law (see Map 26) which includes a portion of the City of Chicago, the Illinois portion of the Calumet Harbor, Calumet River, Lake Calumet and the Calumet-Sag Channel. It is administered by a Board of nine members, five appointed by the Governor of Illinois and four by the Mayor of Chicago. It has the power to acquire, own, construct, lease, operate and maintain port and water terminal facilities within its area of jurisdiction. It is empowered to condemn land in the Lake Calumet area only.

Lacking power to levy taxes, it is required to finance its development by issuance of bonds backed by revenues derived from its facilities which are not obligations of either the State of Illinois or any of its political sub-divisions.

This agency is not given specific authority to intervene in transportation rate cases.

Its regulatory powers with regard to vessels is limited to Lake Calumet and waters outside the jurisdiction of any municipality.

It has been given specific powers with regard to the industrial development of property owned by it.

The Chicago Park District--The Park District, largely concerned with recreational development, owns and controls a large part of the Lake Michigan shore line within the Chicago city limits. There is still lake front property lying within the Harbor Districts[1] designated by the City Ordinances in 1911, as modified by subsequent action taken under the Lake Front Ordinance of 1919, which requires coordinated planning of its use to protect against developments incompatible with its possible use for harbor development.

The Metropolitan Sanitary District of Greater Chicago--The Sanitary District provided the two major inland waterway connections between Lake Michigan and main stem of the Illinois Waterway: the Calumet-Sag Channel and the Chicago Sanitary and Ship Canal. It has the power to construct terminal facilities adjacent to any navigable channel made by it for drainage purposes, including the two channels mentioned above, and to lease, manage or control such docks and the adjoining land when owned or controlled by it. This latter power is presumably subject to the regulatory powers granted to the Chicago Regional Port District in the area of overlap on the Calumet-Sag Channel. Within the City of Chicago and the over 80 suburban communities in Illinois which make up the District, it has the right of eminent domain and the power to levy taxes for drainage purposes. Proposed legislation was defeated in 1955 in furtherance of a proposal in 1954 by the Governor's Committee on Metropolitan Water and Sanitation for the use of this agency to coordinate port development in the area. The District has been used recently as an effective aid in navigation matters to provide the right of way required of local interests by the United States for construction of the Illinois Portion of the Calumet-Sag Navigation Project, as previously described. This authorization includes right-of-way for the improvement of the Calumet River between Calumet Harbor and Lake Calumet.

Municipalities--The Cities and Villages Act of the State of Illinois gives broad common powers to all municipalities, as discussed above under the City of Chicago, to protect the local public interest in navigable waters and to permit the acquisition, construction, maintenance and operation of public water terminal facilities.

The Waukegan Port District--This port authority, of the independent governmental agency type, was created in 1955 by act of the Illinois General Assembly with jurisdiction over the area indicated in Map 26, F. Its governing body consists of five members, three of whom are appointed by the Governor of the State of Illinois, and two by the Mayor of Waukegan. Within its area of jurisdiction it has the common powers of a port administrative agency, plus the extension of these powers over public air ports. It is not given specific authority to intervene in transportation rate cases. In raising capital, it may issue revenue

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[1]Chicago Regional Port District, op. cit., p. 71.

bonds as required, issue general obligation bonds and levy taxes for payment after referendum approval, and may accept grants from other governmental agencies.

The Joliet Regional Port District--A port authority of the independent governmental agency type established by the State of Illinois in 1957, it has a governing body of seven members, three members appointed by the governor, three by the Mayor of Joliet, one by the County Board of Will County. It has the common powers with respect to port administration within its area of jurisdiction (see Map 26), and similar to the Waukegan Port District except that it has no jurisdiction over public airports. In raising capital it may issue revenue bonds as required, issue general obligation bonds and levy taxes for payment after referendum approval, and accept grants from other governmental agencies.

The Northeastern Illinois Metropolitan Area Planning Commission--This official planning body created by the State of Illinois in 1957 is designed to provide an organization through which all parts of the six Illinois Counties of Lake, McHenry, Kane, DuPage, Cook and Will may plan together to attain their best physical development. Composed of 19 members, 8 appointed by the Governor of Illinois, 5 by the Mayor of Chicago, 1 by each of the County Boards, the Commission has the primary responsibility of developing a comprehensive metropolitan plan for its area of jurisdiction within which plans of other governmental bodies would fit. The NIMAPC and technical staff will also serve as an advisory and research agency. It is limited to Illinois while seeking methods of cooperation with both Indiana and Wisconsin. Optimal waterway and area development in the lower Lake Michigan area involves Illinois and Indiana working together in regional planning.

Financed initially by an organizational grant from the State of Illinois, the City of Chicago and the 6 counties are also contributing toward its support. All governmental units are authorized by the State to support the Commission out of general revenue.

The State of Indiana

State agencies--The Indiana Board of Public Harbors and Terminals was created in 1939 by Act of the Indiana Legislature, to build public harbors and terminals within the State of Indiana in counties bordering on Lake Michigan. It consists of 5 members all appointed by the Governor and given the necessary powers and authority to work with the federal government and others to accomplish the construction of a harbor or harbors. As mentioned previously, this Board selected a harbor site at Burns Harbor 8 miles east of Gary in 1949 which, up to the present time, has not met with federal approval. The Indiana Legislature appropriated $2 million in the 1957 session for acquisitionof the Burns Harbor site, subject to obtaining the approval of the economic feasibility and justification by the Army Engineers. The funds do not revert to the General Fund until the project is completed or abandoned. This Board serves as the port planning and construction agency in the state. It has prepared several studies on the subject of Burns Harbor.[1] Further information will be made available to the Board regarding the harbors of Indiana as a result of research in process by the Indiana University School of Business Administration.[2]

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[1] a) Harland Bartholomew and Associates, Economic Survey for the Proposed Burns Harbor in Indiana, prepared for the Indiana Board of Public Harbors and Terminals (November, 1955).
b) Indiana Board of Public Harbors and Terminals, A Proposed New Deep Water Port and Terminal on the Indiana Shore of Lake Michigan (Indianapolis, 1949).

[2] Chicago Sun Times, December 1, 1958.

The Department of Conservation through its Division of Lands and Waters has general supervision over the navigable waters of the state. The riparian owners of land bordering on Lake Michigan have the right to reclaim and own the submerged lands for harbor, water terminal, public, park and playground purposes, which is opposite to the situation in Illinois where title to the submerged lands in Lake Michigan is held by the state.

The Indiana-Highway Department and the Indiana Toll Road Commission are concerned with highways and bridges which may conflict with water transportation requirements.

The Indiana Flood Control and Resources Commission has jurisdiction over public and private waters in the state and the lands adjacent thereto for flood control purposes. It controls the issuance of permits for structures in navigable streams.

Other agencies in the state such as Conservancy Districts and Boards of County Commissioners have jurisdiction over navigable streams. The former have the rights of a riparian owner on land held by them and the latter are required to maintain navigability of streams.

Municipalities--The cities and towns of Indiana are delegated powers by the state to (1) protect the interests of the municipality in navigable waters, (2) to regulate water traffic and bridges, and (3) to provide, own and operate terminal facilities. Their powers generally parallel those of municipalities in Illinois.

Other legislation of interest--Under the Area Planning Act of the 1957 Indiana General Assembly, authorization was given cities, town and counties to cooperatively establish unified planning on a county-wide basis in any county of the state.[1] This Act will enable unified planning to be conducted in Lake, Porter and La Porte Counties. No comprehensive regional planning body for Northwestern Indiana is in existence.

The Interlocal Cooperation Act of the 1957 Indiana General Assembly permits local governmental units to make the most efficient use of their powers by

> "enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities in a manner and pursuant to forms of governmental organization that will accord best with geographic, economic, population and other factors influencing the needs and development of local communities."[2]

The Act defines "public agency" as

> "any city, town, county or other political subdivision of this state; any agency of the State of Indiana or of the United States; and any political subdivision of another state."

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[1]Chapter 138, Acts of the Indiana General Assembly, 1957.

[2]An Act Concerning Interlocal Cooperation of Public Agencies," Chapter 118, Acts of Indiana General Assembly, 1957.

The Act furthermore provides for: (1) Agreements to be entered into between parties concerned covering financing, property acquisition and the approval of such agreements by the Attorney General of Indiana; (2) authority to make appropriations; and (3) status as an interstate compact where public agencies of another state are involved. Examples of the type of matters that might be covered by this Act include flood protection, air pollution control, building code administration, traffic regulation, schools, police and fire protection, drainage facilities, highway or street construction, planning administration, office facilities, "or any one of a number of other governmental responsibilities." [1] The use of this Act as a bi-state medium of cooperation to the extent indicated would probably have to be tested in the courts.

The Interstate Port District of Illinois-Indiana Act, passed by the 1933 Indiana General Assembly, reads as follows:

> "An Act to enter into an agreement or compact with the State of Illinois for the creation of the 'Interstate Port District of Illinois and Indiana,' and the defining of the powers and duties of such Authority." [2]

This legislation, previously referred to in Chapter I, remains on the statute books of Indiana though not in effect since companion legislation is required on the part of Illinois to enact it into law. (See Appendix D for the Act in its entirety.)

Some Observations on Port Administration Requirements

The preceding recitation of the responsibilities, powers, and duties of the various federal, state and local agencies with responsibilities and interests in waterway and harbor development emphasizes the many agencies that exist possessing such interests within the lower Lake Michigan port region. Only the federal agencies are regional in the breadth of their jurisdiction. Some general conclusions can be drawn as a basis for more complete investigation in subsequent chapters.

Coordination

Some coordination between agencies in the port region appears necessary to the end that each harbor and waterway will be adequately prepared to meet the dynamic situation created by the waterways developments without duplication of effort and unreasonable use of waterfront and financial resources. To meet these ends it would appear that some public agency must have the whole view of the regional port as a unit so that water traffic to and from the region can be handled to the best advantages of all concerned.

Protection of Public Interest

The port administrations in effect though limited to specific areas of jurisdiction have adequate power in those areas to protect the public interest in publicly owned waterfront property. However, there are conflicts of interest between public agencies

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[1] The March-April, 1957, Newsletter of the Indiana Economic Council.

[2] Chapter 272, Acts of the Indiana General Assembly, 1933.

where agencies overlap in jurisdiction. For example, in Chicago a substantial portion of the water area behind a breakwater in Chicago Harbor is being converted to use as a water filtration plant. In Indiana, the Indiana Toll Road was placed alongside the Grand Calumet River, federally authorized for improvement for navigation, thus removing a substantial portion of the land available for industrial development and reducing the economic benefits of the project.

Riparian laws in Indiana permit the riparian owners to develop submerged lands for water-oriented purposes and retain title to the reclaimed land. Illinois retains title to the reclaimed submerged lands. Adjustment of uses between parks, harbors, and industry in the public interest enters into public policy decision. Planning seems to be a possible solution.

There does not appear to be any agency in existence in Indiana with authority to fulfill the responsibilities which will be incumbent on local interests to provide right-of-way, spoil areas, etc. for the authorized extension of the Calumet-Sag Channel project into Indiana.

The largest public harbor development is required by law to be self-sustaining financially while other public port agencies in the area are permitted public aid from taxes. The result could be unfair competition not in the public interest.

Comprehensive Port Planning

No agency appears to exist in either state which has the responsibility or authority to prepare a comprehensive port plan on which to base sound waterways and harbor development, maintenance, and operation.

Indiana has the Board of Public Harbors and Terminals charged with the responsibility of constructing a public harbor or harbors on the lakefront and has prepared economic and engineering studies for the Burns Ditch site. Likewise Illinois agencies have prepared harbor studies. Neither seems adequate for comprehensive port plans.

Of course no agency exists for preparation of a plan for the lower Lake Michigan area in both states.

Comprehensive Metropolitan Planning

The port areas create demands for utilities, service, streets, railroads, housing, schools, transportation and municipal service. Port planning must, therefore, be coordinated with metropolitan planning, or local planning in its absence, to enable orderly growth of the area.

CHAPTER VII

PORT FINANCE

An important feature of port administration is port finance, since obviously without a sound financial base, port development, maintenance, and operation can be seriously hampered. The financial needs of a port and the common source of funds to meet these needs will be discussed below.

Financial Needs of a Port

The provision, maintenance, and operation of port facilities for the use of the public as a whole, as distinguished from the port facilities industry provides for its own use--specialized bulk handling facilities--present the financing problems of a port. These problems are normally solved by public port agencies since the uncertainty of a reasonable business return may make a port development project for public use unattractive to private enterprise.

Capital Needs

Planning, engineering, real estate acquisition, site development--bulkheading, dredging and filling, road and rail access--create heavy capital investment costs in the initial stages of comprehensive development for a port region. Out-of-proportion initial costs are often necessary to provide a base for ready and economical expansion of cargo handling facilities to meet future estimated requirements.

Efficient facilities in adequate number to handle the port traffic are essential to provide the service to ships and shippers that will enable a port to grow. Capital needs of various ports vary, of course, with the extent of the program for development and improvement of the port. A few examples will show the magnitude of the capital needs at certain key ports.

The Port of New York Authority has a $380 million marine terminal program underway for development of the waterfront of the Port District--$91 million has been spent since World War II and through 1957. The latter amount represents 59% of the total amount spent by all Port interests, public and private, on the development of New York's waterfront during the period. [1]

The Department of Marine and Aviation, City of New York, which has the responsibility for the administration of New York's city owned waterfront the largest group

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[1] Port of New York Authority, Oceanborne Foreign Trade at the Port of New York (New York, 1958).

of piers and marine terminals in the Port of New York and estimated at $350 million in value, has a 5 year program for new construction totalling $200 million which was initiated in 1957.

The Chicago Regional Port District Board, as mentioned in Chapter V, has plans for early initiation of Stage 2 development of the Lake Calumet Harbor at a cost in excess of $20 million. This is in addition to Stage 1 development which cost $24 million on completion in 1957.[1]

The City of Chicago is spending approximately $4 million for terminal improvements in Chicago Harbor as part of a proposed overall port development program of about $37.5 million, including federal costs of about $14 million for harbor improvements.

Borrowing to meet the financial requirements of public ports engenders debt service costs for the repayment of the principal amount borrowed and the interest thereon. While all public ports and their obligations have tax-exempt status, their debt service costs vary, depending largely on the degree of security provided for the bonds. Generally speaking, bonds backed by the tax wealth of a governmental unit bear lower rates of interest than bonds backed only by the pledge of port income.

Operating and Maintenance Needs

The financial needs to meet operating and maintenance expenses of port administration agencies vary greatly not only due to the difference in size of ports but because of the variation in the functions performed by the various port agencies. Port agencies which lease their facilities to private operators for operation and maintenance greatly reduce financial needs for operating expenses. The port administration agency which engages only in port promotion naturally incurs no facilities maintenance and operating expense. Port administration agencies in the early stages of their organization and development have commonly required financial assistance in varying amounts from the government unit or units which sponsors it. A few examples are: The Port of New York Authority, The Chicago Regional Port District Board, the Waukegan Port District Board, the Toledo-Lucas County Port Authority, the Niagara Frontier Port Authority, the Bi-State Development Agency.

Sources of Port Funds

Public port administrative agencies meet their financial needs from their own means and/or from the means of the government unit sponsoring them. No two agencies are alike in fund sources; however, there are similarities and trends which are worthy of note.

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[1] City of New York, Department of Marine and Aviation, Report to the City Administrator for the Mayor's 1957 Annual Report (New York, January 21, 1958).

Self-Sustaining

A port generates its own funds from terminal charges--wharfage, dockage, grain elevation and storage charges, ground storage charges--rentals and leases, and from any miscellaneous operations such as operation of heavy lift equipment, harbor, railroads, etc. Some ports have income from tunnels, bridges, parking meters and other non-port operations. In addition, funds may be obtained from loans secured by pledge of expected income.

A port agency whose financial needs are met from income from its own resources without benefit of taxes, or the pledging of the tax wealth or general credit of a governmental unit or units is generally considered to be self-sustaining.

The creators of the first port administration of the public corporation type in the United States, the Port of New York Authority, believed that a public agency financing public improvements without the need for pledging the credit or taxing power of the states involved would be a great benefit to the tax payer. This concept was new in the United States but not in the world as it had been used in England for over 100 years. The comparatively new, at that time, but famous Port of London Authority, created in 1908, was based on this concept and to a degree served as a model for the Port of New York Authority.[1] All of the bi-state port agencies and some others, including the Chicago Regional Port District, have been founded on this principle.

The revenue bond which pledges the revenue from specific facilities as security, or the income bond which pledges the income of the port as a whole as security are used by most port administrations to raise funds for needed projects. Port authorities of the public corporation type are restricted to financing from port revenue. This kind of financing does not involve the debt and tax limits of a governmental unit or units and, insofar as the income from specific improvements is pledged for the security of bonds to construct the improvement, encourages a conservative development plan. The tax exempt features of the bonds and the facilities constructed assist in the marketability, as does the backing of a general reserve fund when established. The Port of New York Authority was 10 years in the making of a credit base adequate for its purposes. The solution arrived at hinged on providing the Authority with established earning power in the form of the Holland Tunnel. Other water crossings built by the Authority--the Arthur Kill, George Washington and Bayonne Bridges--required state advances for bond financing. The Chicago Regional Port District, created in 1951, was able to start construction on its $24 million port development at Lake Calumet in 1955, shortly after receiving title to the property from the City of Chicago. This is indicative of the sound revenue producing capabilities that the District Board and management designed for the property since future revenues were the basis and security for the loan.

Public Aid

Most public port agencies, as previously mentioned, have received public aid in

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[1]Frederick L. Bird, A Study of the Port of New York Authority (New York: Dun & Bradstreet, Inc., 1949), p. 15.

some form or other. However, as pointed out, those which are not sustained by continuing direct public aid are considered self-sustaining agencies. Public aid received by public port agencies on a continuing basis can include funds from: (1) general obligation bonds issued by the port agency and secured by the taxing power of the port agency, (2) general obligation bonds secured by the faith and credit of the sponsoring governmental unit or units, (3) appropriations of the sponsoring governmental units, (4) use of the direct taxing power of the port agency or the taxing power of the sponsoring governmental unit on behalf of the port, (5) apportionment of specific taxes levied by the parent governmental unit.

Many port administration agencies, except those of the public corporation type, have either the power to levy taxes in the district or area of jurisdiction or to receive the benefits from taxes levied by the sponsoring governmental unit. The benefit of taxes is essential for the security of general obligation bonds which are commonly used as a means of raising funds for public improvements of all types. Since the indebtedness of many governmental units have reached the prescribed debt limit by law, the ability to raise funds by general obligation bonds is limited. This situation has required either the establishment of port districts with taxing power to serve as bond security or as a direct source of funds for port purposes, or the use of revenue or income bonds where port revenue or total income is adequate for the marketability of such bonds.

The governmental department type of port agency generally depends on appropriations to cover expenditures since revenues from all port activities are usually deposited in the treasury of the government unit involved. Capital and operating funds required by the port agency are requested in annual budgets which when approved by the sponsoring governmental unit serve as the basis for funds appropriations to the port. These funds accrue to the governmental unit from all sources, including, taxes levied by the governmental unit specifically on behalf of the port.

At least one port, the Port of New Orleans, has received a part of the state gasoline tax over a period of years. The Maryland Port Authority will have available a portion of the corporate income tax of the state.

Sources Used by Various Ports

A variety of methods of financing have been used by the port administrative agencies in United States ports. Some ports furnished substantial public aid in the initial development stages have subsequently developed and existed on revenues from their own operations. A review of the methods used by certain successful ports should give a clue as to desirable features in financial management in ports.

Coast Ports

The Port of New York waterfront development is accomplished under two agencies--the Port of New York Authority, a self-sustaining public corporation, and the Department of Marine and Aviation, a governmental department of the City of New York. The former

agency, while initially financed from appropriations until a credit base was established, has been self-sustaining since 1931 in all its financial needs. It is without power to tax or to receive benefits from taxes, and does not now receive appropriations. The Department of Marine and Aviation depends on appropriations to cover its capital and operating needs with all revenues deposited in the City Treasury. This agency, as previously mentioned, is engaged in a $200 million, 5 year new construction program. It has now determined that this program will be self-sustaining in nature. Quoting from the Department's Report to the City Administrator:[1]

> "The redevelopment program is based on leases with steamship lines and railroads returning rentals which meet both the interest and amortization charges of the city's investments in the facilities.
>
> "This self-sustaining nature of the projects results from the Department's making clear to the maritime industry that if the city was going to engage in the business of large scale marine improvements, it was to do so on a business basis.
>
> "By hewing to this fixed policy, port improvement--outside the debt limit because of the revenue producing nature of the program--can, therefore, go forward without impairing the amounts available, under the debt limit, for fields of municipal concern such as health, education and welfare.
>
> "The Department's program for rebuilding New York City's waterfront is, therefore, rooted in sound business principles and all negotiations herein-after discussed, have and will continue to adhere strictly to this basic concept."

The Maryland Port Authority was established in 1956 by the State General Assembly to supervise and promote waterborne commerce in the Port of Baltimore and other present and potential maritime cities in Maryland. It is authorized to issue $15 million dollars in special obligation bonds secured by 1/2% of the corporate income tax of the state and further secured by a property tax levy to be imposed in any year in which the income tax does not provide the necessary amount for debt service. Funds obtained are available for meeting current expenses and costs of development of Port facilities. In addition the Authority is authorized to issue revenue bonds in unlimited amounts secured by revenues of the facilities constructed.

The Port of Portland, Oregon under the Commission of Public Docks, a separate department of the City of Portland's municipal government, has a $9-1/2 million terminal modernization and expansion program well on the way to completion. This program is being financed by a $6-1/2 million general obligation bond issue approved by the voters, funds from a previous revenue bond issue, and revenues from Commission operations.[2]

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[1]City of New York, Department of Marine and Aviation, op. cit., p. 2.

[2]Oregon Journal, December 29, 1957.

Great Lakes Ports

A brief description of the financing methods used or authorized for use for improvement and operation at a number of Great Lakes ports will be of interest.

Toronto

The port is under the control of the Toronto Harbour Commission created in 1911 by an Act of the Canadian Government. The Commissioners, 5 in number (3 nominated by the City of Toronto, 2 by the Federal Government), control the waterfront. They have power to issue bonds guaranteed by the faith and credit of the City of Toronto but possess no taxing power. They exercise full rights of ownership over extensive waterfront property. The Commission is taxed as a Canadian private corporation. All expenses, including debt service, of the Commission are paid from income, the bulk of which accrues from real estate activities involving other than port terminal leasing or licensing operations. The port has been self-sustaining since 1950.

Oswego

The Oswego Port Authority, an independent governmental agency, was created by the State of New York Legislature in 1955 with a port district consisting of Oswego and a suburb. The financial support up to the present has come from a state appropriation which must be repaid, annual grants from the city, revenue from a grain and general cargo terminal donated by the state.

A private local corporation is proposing to develop a general cargo terminal in Oswego.

Buffalo

The Niagara Frontier Port Authority established in 1956 by the New York State Legislature is a public corporation with the Commissioners appointed by the Governor from Buffalo and the adjacent communities which make up the port district. The port is authorized to issue revenue bonds, accept gifts, contributions, loans, etc. from the United States, State of New York, or instrumentality thereof. As a credit base to support its bond issues, the Port Authority received a loan from the State of New York, title to barge terminal properties owned by the state, proceeds from the Peace River Bridge, and proceeds of parking meters in the City of Buffalo until the Peace River Bridge receipts are available, revenues from airport operations under jurisdiction of the Port Authority.

Erie

The Erie Port Commission created by the City Council is a subdivision of the Parks Department of the City Government. Funds have been obtained from the federal, state, and city for port development. $180,000 in planning funds were loaned by the Federal Housing and Home Finance Corporation for initial port development planning. $1.75 million were appropriated by the Pennsylvania state legislature in 1956 for port development on the condition that the city also contribute funds for such development. The city borrowed $500,000 in 1957 and applied this to port development.

Cleveland

The Department of Port Control, a municipal department of the City of Cleveland, has supervision over the port and the city's 2 municipal airports. The department returns all port revenues to the city treasury and receives its capital and operating funds from the city. General obligation bonds approved by the voters are being used for financing a $6 million port improvement program.

Toledo

The Toledo-Lucas County Port Authority, an independent governmental agency, was created by the citizens of Toledo and Lucas County in 1955, as authorized in the Ohio Port Authority Act of 1955. The Port Authority has the purpose of developing facilities and port commerce in an orderly manner based on carefully prepared plans. It is given the powers to finance its activities by general obligation bonds within prescribed debt limits and secured by taxes levied by the Authority after approval by the voters, revenue bonds, revenues from facilities rentals and leases, and results from state leases of submerged land in its district. The Authority adopted in 1957 a comprehensive port development plan as a basis for the Authority's future actions. In this plan it announced its intentions to build an income which eventually will make the Authority self-supporting. Its present development of a 30 acre portion of a 65 acre site for dry and liquid cargo handling at a cost of $1.3 million is being financed from funds accruing from a tax levied by the Port Authority. Operating expenses are being met from port revenues and from the tax levy previously mentioned.

Construction costs of 2 grain elevators with 8 million bushels total storage capacity is planned from revenue bonds to be issued in an estimated amount of $12 million.

Detroit

The Port of Detroit Commission created in 1933 is a governmental department type functioning as an agency of the Wayne County Board of Supervisors. The Port District encompasses Wayne County in which Detroit is located. Its 5-man Port Commission is appointed by the Wayne County Board of Supervisors. The Port Commission operates on a budget approved by the Board of Supervisors. Financing of improvements can be accomplished by issuance of general obligation bonds to be retired by an annual tax levy after voter approval, or by issuance of, or from funds accruing from port operations. Attempts to launch an approved port development plan by obtaining funds from issuance of general obligation bonds failed from lack of voter approval both in 1957 and 1958. Consequently Detroit is reliant on privately owned and operated port facilities to meet the present and immediate future water forne commerce requirements.

Duluth

The Port Authority of Duluth is an independent governmental agency created by the State of Minnesota in 1954. The 7 Commissioners are appointed by the Governor, (2) by the County Commissioners, and (3) by the Mayor of Duluth. The initial stage of a public marine terminal was started in 1958. The $10 million for this stage was financed by a $5 million contribution by the state, $4 million from the county, and

$1 million from the City of Duluth. The latter two amounts were raised by bond issues. Operating funds for the port authority have been obtained by a property tax in the county, and an appropriation from Duluth. Additional work on the public terminal is contemplated to be accomplished from terminal revenues.

An interesting feature of port development financing here is the approval by Duluth in September of 1958, and the Governor and Executive Council of the state in January, 1959 of a 3 year option lease to a private corporation for a $10 million private and industrial port development on waterfront land in the City of Duluth. This development includes an international merchandise mart, grain elevators, bulk liquid storage, bonded warehouses and office buildings to be largely completed in 5 years.[1] British and Canadian interests are prominent in this development.

Superior

The Board of Harbor Commissioners of the City of Superior, Wisconsin was created by the City Council in 1955 under the statutes of the state. It functions as a city department.

Superior shares Superior and St. Louis Bay and half of the St. Louis River with Duluth. Superior has not announced plans for additional port facilities; it apparently will rely on Duluth to meet immediate added port traffic needs.

Milwaukee

The Board of Harbor Commissioners, created by an Act of the Wisconsin Legislature, functions as a department of the city government in control of the Port of Milwaukee. It has broad administrative powers but requires City Common Council approval of projects, plans, and funding matters. The Board submits both an operating and capital budget to the City Council for approval and furnishing of the necessary funds. All revenue from port operations, rentals, leases, terminal charges accrue to the city treasury. Revenues are sufficient to reimburse the City for operating expenses and provide a surplus for reduction of the tax levy in effect to provide funds for current port improvements. An $11 million long-range port improvement program initiated in 1954 and still underway was financed by issuance of general obligation bonds and by cash appropriation generated from tax levy.

The State of Wisconsin is considering an amendment to the state constitution to permit the state to give financial assistance to municipalities for the improvement of port facilities. The program contemplated would have the state establish a port development revolving fund from which Wisconsin cities contemplating port improvements could borrow. Funds would be made available on determination that the city's resources would enable them to pay back to the state the amount of the loan plus interest, less 10% given as a grant, on an annual basis.[2]

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[1]Great Lakes Commission, News Letter, January., 1959.

[2]Robert F. Mathes, "The Function of the Port Development Specialist in Wisconsin," paper given at the Great Lakes Commission Symposium on Port Organization and Administration, Chicago, November 10, 1958.

Lower Lake Michigan Ports

The review of these ports will be limited to Waukegan, Chicago Harbor, and the Chicago Regional Port District. The remainder of the public harbors are administered by the city government with port financing intermingled with other municipal financing. The Joliet Regional Port District created in 1957 is in the organizational phase.

Waukegan--The Waukegan Port District Board has the power to accept grants, loans or appropriations from federal, state or municipal governments, issue revenue bonds secured by revenues from facilities owned by it, issue general obligation bonds secured by a tax levy after approval of the voters of the Port District, levy taxes for corporate purposes, and to fix and collect charges for use of facilities owned by it. Financed from state appropriations up to the present, the Port Board is undertaking economic feasibility studies to serve as a basis for financial support of staged port development plans. These plans seek to develop an operational maritime terminal utilizing existing facilities to the maximum - initially.

Chicago Harbor--The Department of the Port of Chicago created in January 1959 operates under the normal municipal budgetary procedures, and returns revenues to the city treasury. The port modernization program underway and previously described in Chapter V is being financed from general obligation bonds issued by the city. The city's consultants estimate annual deficits will result from general cargo terminal operation ranging from $140,000 in the 2 berth development to $842,000 in the total 13 berth development. Such deficits are justified by the consultants on the basis of direct and economic benefits accruing to the port area from general cargo commerce, as well as transportation cost savings to shippers. The consultants point out:

> ". . . the experience at almost all United States ports that general cargo terminals are not self-supporting in the sense that the direct revenues credited to these facilities are insufficient to cover their costs for maintenance, operation and debt service. Some type of deficit financing or subsidy is necessary. Generally this subsidy takes one of three forms: annual appropriations from state or local governments, direct taxation for port purposes, or revenues from other activities.[1]

Lake Calumet Harbor--As previously described in Chapter V the Chicago Regional Port District Board is limited to financing its activities from its own revenues, issuance of revenue bonds secured by income from its own properties, acceptance of grants, loans or appropriations from the federal government or agency or instrumentality thereof. Its development to date has been financed from revenues generated from the facilities constructed. It was financed in its early stages of organization from state appropriated funds.

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[1] Tippetts et al., op. cit., p. 67.

Summary

A review of the financial needs of certain ports on the coasts and Great Lakes confirms the business nature of port administrative agencies' activities and suggests the need for use of the best financial management techniques in their fulfillment.

All agencies have authority to issue revenue bonds pledging the earnings of their facilities. Generally, port agencies do not have a sufficient credit base at the start of operations to make their revenue bonds economically marketable. This situation has necessitated adoption of various methods by sponsoring governmental units to assist their port agencies in build-up of an adequate credit base, such as, outright grants of money, donation of land and terminal facilities, release of revenue producing bridges, tunnels, or airports, money loans or loan of their faith and credit as bond security.

Port agencies of the independent governmental or governmental department agency type have either the taxing power or the results of use of the taxing power of the sponsoring government unit available to them as security for issue of general obligation bonds, or as a direct source of funds to meet financial needs.

The flexibility in financial management, provided some port agencies by permitting issuance of revenue bonds, or general obligation bonds subject to the approval of the electorate where taxation is involved, has been justified by sponsoring government unit as in keeping with the responsibilities assigned these port agencies. Whether a port's improvements should be financed from revenue bonds or general obligation bonds has been accepted by them as a matter for determination at the proper point in the planning cycle since it is dependent on factors having bearing at the time, even though the intentions of the sponsor that the port be self-sustaining, as a matter of policy, has been previously announced.

Great Lake port operations are complex as they involve exploitation of expanding routes affected by seasonal factors and changing market demands. These circumstances may require that initial port development requirements be subsidized, to enable attainment of a position of readiness to meet trade opportunities. Many ports have been subsidized for years with later emergence as self-sustaining ports.

Chicago's two port agencies present opposite extremes. The City of Chicago's modernization of Navy Pier and subsequent development of Chicago Harbor will require continued deficit financing from city funds according to the City's consultants while the Chicago Regional Port District operating in the southern part of Chicago is meeting its financial needs from its own revenues.

New York City after years of subsidizing its own port agency, the Department of Marine and Aviation, has announced an extensive modernization and construction program for its own water terminals on a self-sustaining basis parallel to the Port of New York Authority's self-supporting waterfront program in the bi-state Port of New York.

Duluth and Oswego have both attracted the earnest interest of private corporations in the development of public terminal facilities with publicly owned facilities in existence. Detroit, as for as the voter is concerned, endorses private development of port facilities by continued rejection of port bond issues at the polls.

CHAPTER VIII

PORT PROMOTION AND PROTECTION

Port operations are, in fact, business undertakings. Thus, there is need for an aggressive promotional effort to sell the port to shippers and receivers, steamship lines and other port users. Only through an active and effective selling job can a port--especially an expanding port like Chicago's--attract and hold the traffic essential to its economic health. Just as a new business would need to pry customers away from older, established patterns of buying, so a newly enlarged port must seek the re-routing of traffic from the older trading channels. Of course, much of the Port's business will represent entirely new traffic stemming from industrial and commercial expansion in the Port's trading area. The point to bear in mind is that fine new port facilities, ably administered, will not merely by the fact of their existence automatically stimulate the amount of new traffic necessary for satisfactory growth and the amortization of investments. A port's advantages have to be pointed out, explained, emphasized and re-emphasized, testified to, and so on, in order that an increasing volume of cargo will become accustomed to moving "via the Port of Chicago."

What Are the Chief Advantages of the Chicago Port which Must be Demonstrated

The list would include: overall freight rates equal to or less than those of seaboard or other lake ports; rapid cargo movement due to ease of access by trucks and freight cars to the port installations; conveniently located grain elevators permitting supplementary grain cargoes to round out the loads of general cargo ships; frequent scheduled sailings to overseas ports; a complete rail network and switching facilities; an adequate supply of freight forwarding, marine insurance, customs, international banking, and similar services; sufficient tugboat, bunkering and chandlering services for the ships entering the port; and--of great importance--the ability of barge cargoes to be transferred easily and conveniently to lake and ocean ships or land carriers.

In What Area Should the Port's Advantages be Proclaimed?

According to the report of the City of Chicago's consultants, 70 per cent of the total overseas general cargo which could potentially move through the Port originates or terminates within 100 miles of the port area, another 15 per cent within the next 100 miles, and up to 95 per cent within 300 miles. [1] The Chicago Association of Commerce's study found that 61 per cent of the Port's 1956 foreign shipments came from the Metropolitan Area and Illinois, Indiana and Michigan contributed another 10 per cent.[2]

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[1] Ibid., p. 11.

[2] Chicago Association of Commerce and Industry, op. cit., p. 18.

If appropriate freight rates are obtained for Great Lakes ports, a southward extension of Chicago Port's tributary area would occur and a tendency would exist for a greater proportion of the Port's freight to come from more outlying areas. A map of the tributary area based on existing freight rates appears above on page 22, top. The close connection between the Port's cargo-attracting power and the rail and highway rate structure will be further developed in a following section. When the Port's shipping advantages are also considered--e.g., directness of rail routes to the Port--then the area in which the Port will attract cargo for overseas points, or vice versa, covers the broader zone depicted on the map on the bottom of page 22.

What is the Magnitude of the Selling Job Required?

One way of attempting a rough measure would be through comparison of (1) the proportion of total overseas general cargo originating or terminating in the Chicago Port's tributary area which moves through the Port, and (2) that which is potentially available to the Port taking into account the available and planned facilities, steamship service, length of shipping season, and so forth. The City of Chicago consultants--the firm of Tippetts-Abbett-McCarthy-Stratton--estimated the Port has recently been handling about 17-20 per cent of the total overseas general cargo originating or terminating in the tributary area. This firm estimated that percentage could attain 25 per cent in 1960 and reach 50 per cent in 1975. This increased proportion would represent about 170,000 tons of additional overseas general cargo for the Chicago Port in 1960 and 1,290,000 additional tons per year by 1975. [1] Of course, there would be much more tonnage potential to the Port of Chicago from the Cal-Sag widening, from the growth in Canadian-United States waterborne trade, and from increased deep draft bulk cargo movements because of new manufacturing and commercial enterprises locating in the Port's hinterland and because of the general growth of many existing industries. However, the last of these water transportation users--the new and enlarged industries dependent in some way on waterborne transportation--is a big enough subject to require separate discussion below. Generally speaking, the Chicago Port must attract many millions of additional tons during the next decade, a fair share of which will be generated outside the Chicago Metropolitan Area, and this task will require thorough and competent port promotion activities.

What constitutes effective port promotion?

Typically, there are at least the following activities involved:

a) Assisting in the preparation and publication of a port handbook and supporting material, which is an indispensible tool for guiding port users and pointing out a port's advantages, and coordination of selling activities of all groups involved in selling the port.

b) Personal contact of relevant business groups, including shippers and receivers, steamship lines, chambers of commerce, railroads, and so on.

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[1] Ibid., p. 12.

c) General port publicity, including advertisements in trade journals, newspaper articles, and so forth.

d) Industrial development. This is a very important aspect of building up a port's commerce and could absorb the energies of many persons. Ports handle this matter in various ways. At the very least one or more port employees occasionally assist firms which make inquiries concerning the suitability of certain areas for business operations using water freight. At the other extreme, the Port makes special efforts to solicit such manufacturing and commercial firms, pointing out the suitable sites that exist (with the aid of maps and detailed information on available water, power and other services; rail, barge and truck lines; labor force; numbers and size of firms complementary to the one being contacted; and so forth). A big effort along these lines would not be warranted, however, if private concerns, such as utilities, railroads, and chambers of commerce were already doing an effective job, or if insufficient information were available and thus detailed planning and other economic studies had first to be undertaken. In any case, the optimal growth of the Port of Chicago will depend significantly on the amount and type of future industrial expansion, both in the Chicago Metropolitan area and throughout the Port's tributary region. As one authority puts it: "Today more and more ports realize the advantages of port-located industry or industry adjacent thereto . . . Industry has proved that industry properly planned and located can contribute more to a community than many other types of development." [1]

If industrial development is part of a Port's promotion program, there is also a question of how large a geographical area such activity will cover. Normally, this aspect of port promotion will not extend beyond the Port's territorial limits (while, in contrast, some of the other tasks, such as (b) above, may take port representatives to more distant cities.) In that case, the stimulation of industrial growth in other sections of the Port's hinterland will fall upon other shoulders, such as the state governments, municipalities and private organizations.

Port Protection

"Protection" means preserving for the Port its rightful share of commerce through maintenance and achievment of equitable rail, truck, barge, and steamship freight rates. There is no more essential and crucial activity confronting the Port. The structure of freight rates determines the geographical region in which the Port can effectively compete with other ports; an adverse freight rate structure, such as now exists, will deprive the Port of much commerce and prevent that optimal growth in the Port's tonnage essential for its economic health and vitality.

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[1]Frank E. Marsh, "The Stake of the Port in Industrial Development," paper given before the 47th Annual Convention of the American Association of Port Authorities (Honolulu, September 17, 1958), p. 3. Mr. Marsh is Executive Vice President and General Manager of the San Francisco Bay Area Council.

Setting up the proper combination of rail rates will prove perhaps the most decisive feature of port protection. Once established, these rates will require supervision and protection by means of negotiation, litigation, and appearances before state and federal regulatory bodies. In many cases, the Port may wish to intervene in a rate case. A witness before this Commission stated flatly that, "The railroads, not the port facilities will make the Ports." As a point in fact, this witness quoted from a cargo promotion publication of the Port of New Orleans: "Undoubtedly the greatest advantage the Port of New Orleans offers shippers and world traders is the favorable freight rate structure on merchandise moving through the Port of New Orleans to or from Mid-Continent U.S.A." It is well known that the Gulf and South Atlantic ports did not become important in the trade picture until a famous rate adjustment about 50 years ago permitted those coastal areas to compete effectively with the upper Atlantic ports.

According to many authorities on Great Lakes port development, the greatest single need in the field of freight rates is for establishment of export-import rates. Such rates have been in effect for coastal ports for many years; they are almost always lower than domestic rates for the same class or commodity; and they enable the seaboard ports to attract much traffic which would move via Great Lakes ports if the latter also enjoyed competitive export-import rates. See the detailed discussion of these rate matters above in Chapter IV.

The close connection between port promotion and the securing and holding of competitive freight rates to and through the Port of Chicago should be apparent: establishment of an equitable rate structure will prove one of the Port's biggest selling points.

Existing Port Promotion and Protection Activities In the Chicago Port Area

Trade Associations and Chambers of Commerce

The Chicago Association of Commerce and Industry and other Chambers of Commerce in the region will be prominent in the promotion of waterborne commerce. However, none of them are in a position to concentrate on such promotion. The truck, rail, steamship, and other trade associations may be able to make a real contribution toward port development, although their emphasis will be selective. Their efforts will frequently be more regional (e.g., Great Lakes shipping as a whole) than specific to one port.

Private Industry

Individual carriers can do much to emphasize port development, though again the treatment may be too selective for many purposes. For example, the Chicago and North Western Railway has put out a publication entitled Foreign Trade (dated May, 1958), which is helpful to shippers and receivers. It explains the details of import and export regulations. Another example would be Inter-state Port Handbook, published by the Rockwell F. Clancy Company for users of the Mississippi Valley inland waterway system. Of course, the Port of Chicago is just one among many ports receiving comment in the publication.

Both trade associations and private firms can be instrumental in obtaining favorable freight rates to and through the Port of Chicago.

Public Port Agencies

Port promotion by the Chicago Regional Port District and by the City of Chicago (Department of the Port of Chicago) will encourage use of their respective facilities. Similarly, Waukegan, Joliet and Michigan City will be promoted separately by their own port and municipal authorities. No existing public agency can carry out promotional programs for the lower Lake Michigan port as a whole. The inter-relationships between the various harbors will remain unexpressed.

The negotiations or legal proceedings of such an agency as the Chicago Regional Port District and the Department of the Port of Chicago and others will win rate benefits applicable to the Port as a whole. However, the magnitude and importance of the problem as brought out in Chapter IV suggests the need of an inclusive representation of all the Port's harbors to bring the full weight of the largest port on the Great Lakes to the conference and bargaining table. Certainly, the eastern coastal ports have gained advantage from overall representation by their respective public port authorities in rate cases.

Industrial Development

What groups are spurring this development in the Chicago Port area and its hinterland? Are such efforts adequate? The Commission was especially interested in this matter, feeling that the potential of the Port of Chicago cannot possibly be realized without suitable public and private efforts to attract the right kind of industry at the right time and in the right area. Especially important will be the effort to guide private business into the most profitable locations keeping in mind the total industrial picture in the immediate and more distant Port tributary area, the resources available, the market potentialities, population growth, effects of the Seaway on transport costs, and so on. It is certainly in the Port's interest that all areas of the Port hinterland develop those industries and commercial establishments which, in one way or another, can benefit from the Seaway, Cal-Sag, and Port improvements. Such industries and businesses have many potential locations in the Port's hinterland, particularly along or near the thousands of miles of inland waterway that connect with the Port of Chicago via the Illinois waterway and Cal-Sag Channel. In the states of Illinois and Indiana alone there are likely to be rich possibilities of further industrial growth of benefit to the Port.

Within the Chicago Metropolitan Area itself, a number of groups are active in promoting industrial expansion. The Chicago Association of Commerce and Industry is especially active in this field and other chambers of commerce are similarly busy. The utilities and railroads naturally participate in this work, too. Among public agencies, the Waukegan Port District, the Chicago Regional Port District, the Joliet Regional Port District are pushing industrial growth in their own areas. Some of the planning studies of the City of Chicago Department of City Planning, the Lake County, Indiana, and Lake County, Illinois, Plan Commissions, and other planning groups help furnish guidelines for orderly industrial expansion.

On the state level, the General Assembly of Illinois has established (1955) the Division of Industrial Planning and Development within the Department of Education and Registration. The 1957 appropriation was $250,000. This agency may be in a position to help communities throughout the state take advantage of the new possibilities in water transportation through expansion of existing and attraction of new industries. That Division may also be able to help fill some of the gaps in knowledge required for satisfactory industrial stimulation.

Several serious omissions in the industrial promotion field exist. For example, there is no recent, comprehensive economic base study of the Chicago Metropolitan Area; there is no industry-by-industry study to determine which ones are under-represented in the Chicago Metropolitan region, elsewhere in the state, or in the entire Port hinterland whose development could be aided by the Seaway, the Cal-Sag, and Chicago Port projects. Data of this type will assist industrial promotion activities particularly in regard to water oriented industry.

Some of the gaps just noted could be filled by an agency with a larger territorial base than, for instance, the Chicago Association of Commerce. Such an agency would be in a position to cooperate with other suitable agencies in sponsoring needed studies through a university, federal agency, or private consulting firm. The Northeastern Illinois Metropolitan Area Planning Commission, the State of Illinois Division of Industrial Planning and Development, and the Chicago Association of Commerce and Industry, among others, are undoubtedly interested in economic studies. The situation in Indiana with respect to comprehensive economic base studies is not fully known to this Commission, but their universities and state agencies are equally capable of assisting in completing the picture of the state's potential economic future.

Of great significance in this matter of state responsibility for port and industrial development is the recent action of the State of Wisconsin. On the 5-man staff of the Division of Industrial and Port Development — part of the Governor's Office — is a Port Specialist having 8 specific functions spelled out in legislation approved in 1957. This Specialist, in remarks at the recent Symposium on Port Organization and Administration of the Great Lakes Commission, stressed the many benefits gained by the entire State of Wisconsin from the stimulus given port development through state action. Emphasis will be on securing industries near the various ports and on initiating market and traffic studies.

Selling and Protecting Competing Ports

Seaboard Ports

Vigorous port promotion has stepped up along the Atlantic coast since the last war and especially in the last several years when new port authorities, such as Baltimore and Philadelphia-Camden, began operations. These ports issue excellent handbooks and other promotional literature, often in collaboration with private associations,

clubs, Chambers of Commerce, and so forth. "Ship via Port of New York" is a selling slogan very widely advertised by that port. These Atlantic ports also station representatives in distant cities in order to stimulate traffic through their respective ports. For example, the New York Port Authority has Trade Development field offices in Chicago (since 1945), Cleveland, Washington, Rio de Janeiro, London and Zurich. The Port of Maryland Authority (Baltimore) has offices in Chicago, New York and Pittsburgh. A host of other ports on the South Atlantic, Gulf and Pacific coasts also strongly emphasize promotional activities, especially New Orleans, Long Beach and San Francisco Bay Area.

These seaboard ports specialize also in negotiations and litigation regarding freight rates; indeed, this is one of their most important functions by their own admission. Over the years the coastal ports have built up a structure of rail import-export rates which allow lower-cost movement of goods to and from the ports, when the goods are in prior or subsequent water movement, than the domestic rates over the same routes for the same goods. These rates will be stoutly defended by the seaboard ports as the Great Lakes ports seek their own structure of import-export rates. In this rate-setting field, the New York Port Authority has been very active: in 1957 alone it participated in 12 marine, rail and motor carrier cases, of which 3 are of fundamental importance to the Port's future. The most recent report of the Delaware River Port Authority gives prominence to that body's actions in several vital rate cases. It is clear that the ability of these coastal ports to intervene and to help initiate action in rate cases--which sometimes drag on for many years--has yielded many direct economic benefits to the ports.

The promotion efforts of the port administration agencies in many cases have been supplemented by various private groups, e.g., chambers of commerce, boards of trade, trade marts, trade associations and so forth. These groups are businessmen organizations whose general purpose is to promote commerce, trade, or traffic in the port of benefit to the businesses of their members. Normally no one of these groups can fully perform as the port promotion group since territorial as well as other demanding interests prevent the required degree of concentration on a port promotion program. Particularly is this true where a regional port, consisting of many harbors, is involved.

The port traffic bureau is a special agency which is used in some ports to promote trade and traffic. Such an agency is sponsored by the port administrative agency, the chambers of commerce or the several maritime interests in the port. It works either independently or under the general supervision of a trade official of the port. Functions performed in cooperation with other agencies and associations are:

1. To promote business for the port, inform industries and all shippers of the advantages of shipping through the port.
2. To investigate rates, charges, and practices pertaining to movement of freight in, to, and from the port to the end that rates, charges, and practices are just and competitive with other ports.
3. To represent the port in matters submitted to regulatory bodies wherever such representation may benefit and advance the port.
4. To assist local and state agencies in the promotion of industrial development that will directly or indirectly generate port traffic.

5. To employ all available authorized means to bring into existence and maintain a full development of commerce in the port.
6. To develop a fund raising system which will provide for adequate promotion and protection of the port without resort to local, state, or federal government funds.

The traffic or trade development department of the port administrative agency, if not given general supervision over a port traffic bureau, cooperates with and give guidance to such an agency so that their activities are coordinated.

Examples of typical private groups engaged in port promotion or activities at seacoast ports which serve as excellent aids in such promotion include: The New York Board of Trade, Inc., The Joint Committee for the Promotion of the Port of New York, The New York City Council on Port Development and Promotion, The Shippers' Conference of Greater New York, The Baltimore Export and Import Bureau, The Savannah Georgia Traffic Bureau, The International House and Trade Mart of New Orleans, The World Trade Center of San Francisco.

Great Lakes Ports

In the lst few years many of these ports have launched promotional campaigns, spearheaded by publication under public auspices of port handbooks and allied documents. Milwaukee, Toledo and Buffalo have produced especially useful port promotional publications. Part of these promotional efforts have included special economic studies. A noteworthy one was sponsored by the City of Buffalo in 1955. This study by a private consulting firm attempted to determine those industries within the Buffalo tributary area (36 counties in New York and Pennsylvania) which were either missing altogether or were of insufficient capacity compared to the demand of that area. Among such industries, a further effort was made to determine those expected to benefit from lower water transportation costs because of Seaway improvement.[1] This is one kind of study which could possibly prove of enormous value to the Chicago Port and its hinterland. As was pointed out, no such study along this line has yet been attempted.

With regard to port protection, the Great Lakes ports are just getting organized for the big push on behalf of export-import rates and other rate changes. Milwaukee and the Chicago Regional Port District have already made some headway along these lines, though much remains to be done. Chicago, as the largest port on the Great Lakes, should take the leadership in this effort.

Summary

Because the Port of Chicago will not attain an optimum rate of development without persuading port users of its advantages, a concentrated program of effective port promotion throughout the Port's hinterland must be diligently pursued. In this endeavor a Bi-State Port Commission could play a key role, supplementing and coordinating the promotional work of other public and private groups. Some port selling must take place in

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[1]See Frederick R. Harris, Inc., Report on the Port of Buffalo, prepared for the Division of the Port, City of Buffalo (New York, 1955), pp. 27-33, A43-A51.

more distant cities within the hinterland. One aim of the promotion is to double and triple the proportion of overseas commerce from the Port's hinterland actually moving through the Port of Chicago. Among the specific jobs to be done would come publication of a comprehensive port handbook and supporting material; also, personal solicitation of new port-oriented industries to sites in the Port area. The last of these constitutes a crucial factor in raising the Port's tonnage and ensuring an efficient use of the Port's services.

Industrial development throughout the Port's Illinois and Indiana tributary area may be considered a separate and extremely vital aspect of port promotion. Normally, the many private organizations interested in this function will do most of the job. Any broadly based port agency could, however, initiate certain research projects, coordinate some of the private efforts, gather information in order to answer questions naturally encountered by the Port's representatives as they visit port users, and help see that land suitable for port-related industries is properly zoned by the local governments.

The two states of Illinois and Indiana might very well play an important role, through their appropriate offices, in port promotion and the guidance of industrial expansion. The establishment and protection of a proper structure of freight rates should go far to insure an optimal amount of Port usage and a satisfactory rate of Port growth. Creation of suitable export-import freight rates between the Port and interior points will prove the chief requirement. An overall port agency could decisively aid the private interests seeking necessary rate improvements.

The Commission has observed that the coastal ports have been very active in both the port promotion and protection fields. Their activities have been supplemented by private groups organized as traffic bureaus, international trade groups, and trade associations. Several Great Lakes ports have also emphasized port promotion and begun some intervention on behalf of more equitable freight rates. A few Lakes ports have sponsored very useful economic and rate studies.

CHAPTER IX

PLANNING FOR PORT AND METROPOLITAN DEVELOPMENT

Since considerable port expansion will prove necessary in Illinois and Indiana during the next 15 years, a suitable development program for the maximum exploitation of the Port's opportunities must be framed. The public interest clearly requires that the new facilities and other measures included in future port development be properly scaled and correctly timed in relation to the growth of the Port's commerce. Haphazard port development leading to economic inefficiency, through improperly located improvements, excess or inadequate capacity, harmful competition among harbors of the Port, and so forth, must be avoided.

Comprehensive Port Planning

Future port developments along lower Lake Michigan will take place in the several harbors, rivers and canals. Even though the actual operation or control of all these waterfront and supporting facilities will not be under one governmental jurisdiction, guidance to the concerned public and private agencies in the form of an overall coordinated port plan prepared by some competent agency after consideration of the many economic and physical factors involved should greatly enhance port development. Such a plan would take into account the special role that each harbor, river and canal could play in the metropolitan area's economic growth. If new harbors were deemed necessary--as would seem likely in the not too-distant future--their size, location, time of construction, and so on, could be related to the ongoing developments and future plans at other Port areas. The plan would be comprehensive; that is, taking into account not only the necessary physical facilities throughout the entire Port, but also including regional and national economic trends, new technological developments affecting port operations, population changes in the Metropolitan Area and the Port's hinterland, any new national transportation policies, the overseas economic developments affecting the Port's foreign commerce, and so on. An especially crucial element of such a comprehensive plan would be due attention to the port-affecting activities of the many governmental units operating in the same geographical area--the idea, again, of coordination. The criterion would be an integration of all the foregoing matters into a plan laying down sensible goals tentatively scheduled over time and specifying in at least general terms the means to be employed in reaching the goals.

Voluntary cooperation among the diverse port agencies, municipalities, special districts, state agencies and federal agencies can, of course, help avoid haphazard port development. The question must be raised and faced, however, whether such voluntary cooperation can ever lead to formulation of a suitable comprehensive development plan as outlined above, including provision for periodic revision. Normally, the type of comprehensive planning envisaged here cannot be performed without some public agency having specific authority to discharge the Port-wide planning function.

Current Port Planning

The reader may wonder why this Commission stresses so strongly the need for new planning arrangements, as just outlined above. What is wrong, it may be asked, with the existing arrangements? There are at least the three following situations requiring attention:

a) the lack of integration between the separate waterway and harbor development;

b) the lack of a sufficiently long-range development plan for the entire Port, running to at least 1975, which can give guidance to the detailed programming of orderly port growth in the preparation of each year's budget or each longer term capital budget of the various port agencies and port-related agencies;

c) the lack of firm guidance to federal agencies such as the Army Corps of Engineers and Maritime Administration on the selection, timing, scope and priority of federal improvement projects.

Divided responsibility for port development

The many separate governmental and private jurisdictions over various harbors and waterways threaten incompatible port development. At present major port undertakings or waterfront development (possibly antithetical to maximum port efficiency consistent with the public interest) may originate with:

1) City of Chicago

2) Chicago Regional Port District

3) Indiana Board of Public Harbors and Terminals

4) the Port Districts of Waukegan and Joliet

5) City of Michigan City

6) Metropolitan Sanitary District of Greater Chicago

7) Chicago Park District

8) Illinois and Indiana Departments of Conservation (state parks and, in Indiana, jurisdiction over navigable waters of the state)

9) Illinois Department of Public Works (Division of Waterways)

In addition, a host of other public groups affect port development less directly though not necessarily less decisively. For example, the Illinois Division of Highways or the Illinois Toll Road Commission could vitally affect harbor, waterway, and industrial sites through location of major roads.

The Metropolitan Sanitary District's sewage disposal program has an impact on several waterways and, furthermore, the District has charge of land acquisition for the Calumet-Sag project on the Illinois side, including improving the vital Calumet River link between Calumet Harbor and Lake Calumet Harbor. The Chicago Park District maintains and develops waterfront recreational facilities including pleasure boat harbors. The two State Departments of Conservation possess important state parks along the lakefront. The Cook County Forest Preserve District holds lands abutting waterway routes. Recreational uses of the scarce lake shore, as well as on or near other waterways, must be carefully planned and coordinated with industrial and commercial uses.

Within the City of Chicago government, the City Council's Committee on Harbors, Wharves and Bridges, the Committee on Finance, the Comptroller, the Corporation Counsel and the Department of the Port of Chicago each have some degree of authority over certain aspects of harbor and waterway development.

A sufficiently broad planning function can integrate these various port-related undertakings by providing a framework within which each project can fit in terms of timing, location, size, design, and so forth, for the maximum benefit to the public's interest both in the Metropolitan Area and throughout the hinterland served by the Port.

Lack of sufficiently long-range planning for the entire Port

At present there is great unevenness among the Port's harbors and waterways in regard to the length of time for which development plans, if any, have been prepared. Certain fractions of the Port, such as Chicago Harbor and Lake Calumet, have at least tentative development plans running to 1965 and beyond, while other areas--for example Calumet Harbor and River, the Sanitary and Ship Canal, and the Chicago River--have not been programmed very far into the future except for a few specialized projects such as channel widening and deepening.

A sufficiently long range plan for the entire Port would run 15 or 20 years ahead of any given year. It would therefore be appropriate to include in a Port development plan pertinent trends such as regional and national economic growth, technological advances expected to affect port operations (for example, containerization methods of cargo handling), population shifts, and so forth. But these important kinds of considerations tend to be neglected when only smaller parts of the entire Port are planned separately as now occurs. However, even the most sophisticated development plan for any given section of the Port can prove futile if other parts of the Port lag behind, or fail to build certain supplementary type facilities, or even construct competing facilities--all of which leads to inefficient and inadequate port operations.

It is important to remember that 3 years can easily elapse between recognizing the need for some port development and the time construction actually begins. Five years will often be required before the new facilities can be put in use. If longer range planning gets sidetracked because of the more pressing and immediate problems facing the many port agencies mentioned in the preceding section, the entire metropolitan area and the multi-state Port hinterland will be the loser.

A planning principle--As a central concept in the matter of longer range planning, the principle of "staging" is worth separate attention. "Staged" development means scheduled over time, the most detailed portion being laid out in, say, a 5-year capital budget; a still more general and suggestive development plan running on to the end of say 20 years. A competent planning organization is necessary in order to revise the plans periodically, always keeping one eye cocked to the more distant future 20 years or more away, the other eye looking at the shorter run and making sure that specific steps are programmed for the next 4 or 5 years.

Hallmarks of port planning

To summarize the above, the future port planning should be comprehensive, integrating and correctly staged over the next 15 or 20 years.

What does all this imply in terms of the method by which the port development plan should be prepared? Some of the possible but by no means all the prerequisites could include:

1) An obligation to search out and receive the views of all interested groups in the Port area, and possibly in more distant cities in the Port's hinterland, including both private and public organizations. The Port-wide organization responsible for preparing the plan could be required to hold public hearings before submitting any plans to the two state legislatures for approval. The organization could be requested to explain its proposals to interested groups and to the public generally.

2) An obligation to present for state legislative approval only the broad outlines of the comprehensive port plan, leaving flexibility for adjustment of the plan as conditions warrant.

3) Along with a port plan, the sponsoring planning organization could be requested to propose the type of administrative arrangements it thought necessary for proper implementation of the plan.

4) Authority to contract certain planning studies to competent private firms when desired.

5) An obligation to make every reasonable effort to dovetail the port plans with the many other types of plans being framed by whatever form of metropolitan planning apparatus existed at the time in the 2-state area.

Port Planning by Other Public Agencies

The reader may ask why the Northeastern Illinois Metropolitan Area Planning Commission (hereafter referred to as NIMAPC) could not undertake the comprehensive port planning that has been outlined above. Of course, one reason is that port development is especially bi-state while the NIMAPC is limited to Illinois. But even aside from that obvious consideration, there is the practical fact that the NIMAPC's planning is keyed to generalization rather than the specialization required for detailed port planning. The latter

type of planning requires attention to the significant details of port operations by persons having knowledge of and interest in these matters while yet looking to the overall metropolitan planning conducted by the NIMAPC for guidance. In this way port development would be integrated with the many other port-related features of the economic landscape such as water, sewage, and drainage layout; transportation of people and freight; air pollution control; residential siting; fire and police protection, and so forth. The mutual interrelationships between port and metropolitan planning will be further discussed in a later section.

Other Reasons for Improving Existing Port Planning

Since so many agencies engage in some type of port planning, but have strictly limited territorial, financing, and other powers, it is no wonder that controversy has arisen over certain features of the Port's development. The Commission is familiar with these controversies. But far more severe disagreements could occur in the next 20 years--the period of the Port's rapid growth--if no agency can integrate the proposals of the various port groups involved. For example, there are plans for the State of Indiana, with aid from the federal government, to build a large new port with both bulk and general cargo capability east of Gary in the vicinity of Burns Ditch. The question must be raised if it would not be in the interests of the entire Metropolitan Area and its broad hinterland (which includes most of Indiana as shown on the maps on page 22 above) if the Burns Harbor proposals were evaluated objectively by a bi-state planning group not only from the standpoint of Northwest Indiana's economic development but also in relation to the economic development of the entire Metropolitan Area? (The Metropolitan Area, again, may be taken as the 5 lakefront counties in the 2 states plus Du Page, Kane and Will Counties in Illinois.)

Possible need for a new lakefront harbor

No existing public agency can adequately undertake preliminary investigations for a new harbor or other facility which would use adjacent land and water areas in both Illinois and Indiana. Within 10 years there is likely to be a need for construction of another harbor on the southern shore of Lake Michigan. One strongly recommended location, among others, is between the existing Calumet and Indiana Harbors astride the state line. Since several years must elapse between the beginning of any studies for such a harbor and the time construction could begin, there may not be much time left before an evaluation of this proposal should be completed.

A barge route to Indiana Harbor

Closely related to the question of another harbor by the state line is the problem of providing a barge route from the Illinois Waterway via the Cal-Sag Channel to Indiana Harbor and beyond. At least 2 schemes are envisaged: (a) converting the Grand Calumet River into a navigable channel to Indiana Harbor and eventually on into Gary (see Map 26 Appendix F). This project was authorized by Congress in 1946 as the second stage of the Cal-Sag project. (b) Construction of a breakwater from the existing one at Calumet Harbor down to Indiana Harbor, thus ensuring barges of safe passage on the Lake even in bad weather. Any proposed new harbor on the Lake near the state line would obviously affect such a scheme. The first method--that of widening and straightening the Grand Calumet River--admittedly requires some restudy now that the Illinois Toll Road has been built

practically on top of the eastern end of the proposed waterway and thereby preempting adjacent land from the profitable industrial uses the waterway would make possible. The principal point is merely that no existing public agency can adequately resolve this matter from the standpoint of the entire Port's best interests.

Guiding federal agencies

Federal programs affecting the Port's development include the activities of:

1) Army Corps of Engineers (harbor and waterway construction, improvements, and maintenance; removal and rebuilding of obstructive bridges)

2) United States Customs Service (certain controls over passengers, cargoes, and ships)

3) United States Coast Guard (navigation aids, rescue facilities, licensing, ice breaking and law enforcement)

4) Immigration and Naturalization Service (processing inbound foreign passengers)

5) Federal Maritime Board and Maritime Administration (certain regulatory duties for water carriers and terminal operators, port development aid)

6) Department of Agriculture (plant and animal inspection)

Each of the above agencies have annual budgets which, if not incorporating desired services for the Port of Chicago, may prevent the Port from rendering the maximum benefit to port users and the public generally. Each agency requires different forms of local assistance and of local guidance as priorities are assigned among competing demands for funds. A genuine port development plan would permit the Port of Chicago to give advance information to the federal agencies regarding future requirements; thus, these agencies would be in a better position to consider the Port's requests and to schedule service increases or changes to coincide with the Port's ongoing development.

The work of the Army Corps of Engineers is particularly vital to the future of the Port. The projects undertaken by the Corps must first receive approval from the Chief of Engineers, Washington, D. C., the Congress, and the Bureau of the Budget. Many Great Lakes and other ports will be asking for federal authorization and appropriations for harbor and waterway improvements, and the Port of Chicago can effectively compete for its rightful share of these important projects only by a properly timed demonstration to the various federal executive and legislative groups that each contemplated project actually does deserve funds for study or, if already authorized, for construction. The Port will have to show that the requisite amount of local cooperation will be forthcoming for each of the desired projects. It is clear that a Port-wide development plan could greatly aid in securing for the Port the necessary approval of projects for harbor and waterway deepening, straightening and widening; obstructive bridge removal or replacement; breakwater construction; and other improvements. The long-delayed widening of the Calumet-Sag Channel--begun in 1955 9 years after authorization by Congress--is a striking example of the delays to projects where local interest and local ability to provide the requisite assurances of coordination and cooperation are lacking.

Port Planning by Other Great Lakes and Seacoast Ports

Comprehensive port planning is currently underway in a majority of the ports expected to compete with the Chicago Port for traffic during the next 20 years. These competing ports would include Milwaukee, Detroit, Toledo, Cleveland, Toronto, New York, Philadelphia, Baltimore and New Orleans. From personal observation at several of these ports, the Commission has seen evidence of the importance attached to carefully prepared development plans. The following are a few examples of the planning going on in these other ports:

Milwaukee

The Board of Harbor Commissioners has already programmed port improvement projects to handle the first 5 to 10 years of the Seaway era. Most of the new construction is scheduled for completion in 1959 at a cost of approximately $8.5 million, including a new $2 million vehicular viaduct providing ingress and egress for harbor truck traffic. Beyond this, the Port is proceeding with a 20-acre fill in the outer harbor which will eventually provide nearly 1900 feet of deep-draft berthing space and valuable land for terminal or industrial development. The Port has been planned to allow for more piers and other harbor facilities in the more distant future.

Toledo

The Toledo-Lucas County Port Authority estimates that approximately 61 million tons of cargo will move through the port per year by 1975. Most will be bulk cargo, the majority of this being coal. The Authority has made specific plans at specific sites for new general cargo, grain, and marine facilities to meet the expected needs. Harbor improvements reports have been submitted by the Corps of Engineers. Concerning the general cargo requirements, the Authority comments:

> "The plan provides for . . . terminals to be available to fill promptly any deficiencies in capacity which may develop. This will require standby capacity to be available, at least to the extent of filled and bulkheaded open piers . . . To accomplish this the Authority must have developed waterfront land 'on the shelf' ready for use when such needs arise . . . Consequently, the plan . . . is to accumulate and maintain a reserve of usable bulkheaded land suitable for the handling of general purpose cargo, and then to bring that land into use as demand develops."[1]

Buffalo

A master plan for port development, last revised in June, 1958, has been prepared for the Niagara Frontier Port Authority by an engineering firm. This plan can be accomplished in stages as the needs of commerce and industry dictate. Total cost is estimated at $21.6 million. In preparation of this plan, explicit study was given to the area's water recreational needs, particularly bathing beaches and pools and pleasure boating. Extensive harbor dredging will be necessary to handle Seaway-draft ships. A harbor deepening report has been submitted by the Corps of Engineers.

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[1] Toledo-Lucas County Port Authority, The Plan of the Toledo-Lucas County Port Authority for the Port of Toledo (Toledo, 1957), pp. 18-19.

Toronto

Port planning is an old story at this principal Canadian Great Lakes port. It began in 1911 with formation of the Toronto Harbour Commission. Since the post-World War I years the development of the port has in general followed the original plan. Anticipating a steadily increasing volume of cargo through the port, the Commissioners have laid the groundwork for port development into the 1980's. Recent waterfront and harbor improvements will enable Toronto to handle adequately the next several years growth in tonnage following completion of the Seaway. The current construction program will require an estimated $15 million. Excellent terminal areas have been bulkheaded and filled . . . only some dredging and transit shed construction are necessary in order to add greatly to the port's total capacity. Dredging of the harbor to Seaway depth should be finished by the spring of 1959. In addition, plans have been prepared for a large-scale new harbor on the lake shore which will double the amount of present berthing space. One aspect of Toronto's foresight is worth noting: the earlier plans allowed for eventual dredging alongside piers to 30 feet without endangering foundations.

New York

One of the chief staff departments of the New York Port Authority is the Port Development Department. It contains a Planning Division and also a post of Deputy Director for Comprehensive Planning. The latter's interests run into the 1980's. A comprehensive port development plan has been employed by the Authority and is undergoing revision in the Comprehensive Planning office. A concern for longer range planning has led the Authority to pioneer several important studies of metropolitan-wide problems (e.g., origin and destination traffic surveys as part of improved highway planning in the New York area). The Port of New York is programming millions of dollars in more expenditures for large increases in its cargo handling capacity and for greater economic efficiency in port operations than is any Great Lakes port. Modernization programs, underway and projected, promise to make the port more advantageous to shippers. The reconstruction, expansion and new construction of marine terminal facilities are the principal forms of current and future port development. The Port is working toward self-sufficiency in its terminal construction and operation program. Expenditures for this purpose have already run at least $171 million since 1946 on the part of the Authority and the City. Several hundred more millions will likely be spent on terminal and slip projects up to 1962, (approximately $150 million by the City). This gigantic investment program includes a $275 million comprehensive and integrated harbor development at Newark-Elizabeth, New Jersey, by the Port Authority, of which upwards of $50 million has already been spent. A 2-mile redevelopment project in Brooklyn by the Authority will absorb $85 million. In addition to all the foregoing outlays, several more millions will be allocated by the federal government for waterway and harbor improvements. A 6-1/2 mile waterway, the Arthur Kill (between Staten Island and the New Jersey mainland), will be deepened from 30 to 35 feet for about $24 million. New York-New Jersey groups are urging an additional multi-million dollar program of widening the Arthur Kill to 900 feet and deepening it to 45 feet.

Philadelphia

The Delaware River Port Authority has responsibility for port development, including mass transit. A long-range proposal for the latter activity has been advanced by the Authority. The City of Philadelphia has published a guide plan for the operation and

development of city-owned waterfront facilities. One significant study of the economic impact of the Port is being framed. A development plan for the area was prepared, under contract, by a consulting firm in the late 1940's.

Baltimore

The Port of Maryland Authority was established in 1956 and among its duties is the investigation and survey of any needed port facilities "for the development and improvement of commerce and for the more expeditious handling of such commerce . . . ."[1] It can designate the location and character of its own facilities or those it is empowered to control. The Authority has the ability to issue $15 million of special obligation bonds and an unlimited amount of revenue bonds. As in the case of Philadelphia, an earlier port development plan was drawn up by a private engineering firm under contract.

Port Planning in Relation to Metropolitan Area Planning

Metropolitan area planning constitutes a broad approach to the common problems faced by municipalities, counties and special districts throughout the Metropolitan area. Such planning normally includes attention to all forms of transportation of freight and people; water supply; sewage and drainage; air and water pollution; industrial, commercial, residential, and recreational land-use patterns; fire and police protection; and so forth. This regional type of planning has arisen because the existing fractured form of government in the area--consisting of hundreds of different, separate governmental jurisdictions--cannot adequately cope with the growing number of public problems transcending municipal, county, and even state boundaries.

If a genuine bi-state metropolitan planning system would soon permit preparation and adoption of a comprehensive metropolitan plan, the proper framework for port planning would be assured. A pattern for overall growth would be provided, tying together the various economic elements of this one large metropolitan area. Within such a framework port development would have its logical place, supplementing and enhancing the other elements in an orderly, dovetailed progression. In this way

--industrial and recreational competition for scarce waterfront sites could be adjusted;

--the many new housing, school, water, health and other needs stemming from increased employment due to expanded waterborne commerce and new port-oriented industries could be met without inefficient and incompatible land use or inadequate municipal services;

--the labor force would be able to reach the Port Area's industrial and commercial establishments from most parts of the metropolitan area without a prohibitively long and difficult journey;

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[1] Maryland Port Authority, Laws of Maryland, Extra Session 1956, Chapter No. 2 (Senate Bill 1), as amended by the Maryland State Legislature 1957 and 1958, p. 8.

--the freight moving to and from the waterfront would not be delayed too long by congestion;

--harmful air pollution could be more easily controlled; and

--the prevention of future urban blight might be less difficult.

Some of the more crucial metropolitan planning problems affecting the future prospects of the Port may be briefly discussed as follows:

1) Harbor and other waterway developments compete for the same land with other uses, such as residential and recreational. Consequently, one of the other of these uses may win out--or all action may be stymied--simply as a result of pressure-group rivalry without anyone considering the matter from an impartial viewpoint designed to protect the public interest.

2) The new industries expected in the Metropolitan Area, especially in the Calumet district of Illinois and Indiana, will create many new jobs during the next 20 years both directly and indirectly. The number has been variously estimated, but would not likely be less than 95,000 by 1970 in the Calumet area alone.[1] These workers and their families will need housing, schools, water, sanitary facilities, hospitals, parks, and so forth. The proper integration of residences with industrial and business areas, and provision of the necessary services, will require planning above the county level (though, of course, actual extension of services to new subdivisions and new industrial sites will be handled by the local communities). If sufficient housing of the right kind cannot be provided in the right places, then the ability of industries to attract enough of the right kind of labor will be diminished and the region's industrial and commercial development will to that extent fall short of its full potential. There is an obvious need for comprehensive land use planning in the metropolitan area. The wrong location of residential subdivisions or the inadequate redevelopment and conservation of existing residential areas could seriously restrict the area's industrial and commercial base and the provision to workers and their families of an attractive and healthful environment for daily living.

3) Inadequate transportation capacities for people and goods could similarly restrict industrial and commercial expansion. Freight movements--especially those to and from the waterfront facilities--would be threatened with costly delays. The labor force would meet with severe delays in traveling to and from work and the commuting zone for many plants would be consequently reduced. In other words, congestion of transportation routes would severely mitigate the chances of successful port development. Additional

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[1]Estimate of the Chicago Plan Commission, The Calumet Area of Metropolitan Chicago (Chicago, 1956), p. 23. The Chicago Association of Commerce and Industry at one time anticipated 890,000 new jobs in the entire Metropolitan Area after the full effects of the Seaway and waterway improvements had registered. The Real Estate Research Corporation (on behalf of the Purdue-Calumet Development Foundation) estimated the Seaway, Calumet-Sag, and Lake Calumet projects would stimulate 600,000 new jobs directly and indirectly following their completion, and 740,000 new jobs are expected when all proposed waterway developments are finished. This additional employment would imply a total of about 2 million additional persons into the Metropolitan Area. (Real Estate Research Corporation, "Housing Market Analysis, Calumet Area," no date given, as quoted in Purdue-Calumet Development Foundation, Traffic Relief, Northwestern Lake County) (Indiana) (East Chicago: Cooperative Traffic Committee, 1957).)

mass transit facilities deserves special study. Part of the congestion problem is, of course, the lack of sufficient grade separations between rail and roadways. But of equal seriousness is the problem of bridge openings over the many miles of waterways in the metropolitan area: as these openings become more frequent as waterborne commerce grows, particularly along the Calumet River, the need will undoubtedly arise for consolidation and reconstruction of railway bridges and possibly tunnelling under the river. Clearly, measures which vitally affect major transportation routes, including the provision of mass transit, cannot be adequately studied short of the metropolitan level.

4) While industries locating near or along waterfronts in the metropolitan area may have ample supplies of water, suburbs further inland are not so fortunate. Water tables have been falling throughout the region. Extension of Lake Michigan water supply to these growing suburban areas is a prerequisite of additional, satisfactory residential development. But, again, the planning of these future water supply arteries--having adequate capacities--requires a metropolitan-wide understanding. Even where lake water is being supplied, the close in location of cribs on the Indiana shore suggests the need for remedial action.

5) Air pollution may be a serious menace to much future and existing residential development, particularly in the Calumet area of Illinois and Indiana, if suitable ameliorative steps are not soon taken. The problem obviously extends over county and state lines.

6) Sewage and drainage problems exist in much of the area just south and southwest of Lake Michigan. The expected large-scale industrial growth of this area, entailing also much new housing, may cause dangerous sanitary and flooding conditions unless some metropolitan-wide agency plans for long-range handling of these wastes. Both sewage and drainage problems extend over many counties and both states.

7) The prevention of future urban and rural blight and the consequent need for costly urban renewal and redevelopment presents area-wide problems of zoning and zoning enforcement, building and housing code revision and their enforcement. Minimum standards may well have to be established, one way or another, for the whole metropolitan area.

8) Closely related to some of the above planning problems is the stimulation of suitable industrial development in the Port area and its hinterland. This vital matter is given separate consideration in the preceding chapter.

Other specific examples in addition to the ones above could be given. But enough has been said to indicate the relationship between port planning and ongoing metropolitan planning. Unfortunately, however, since metropolitan planning is only just getting off the ground in the metropolitan Area, port planning must proceed without benefit of a regional plan.

In the 1957 session of the General Assembly, Illinois created the 6-county Northeastern Illinois Metropolitan Area Planning Commission (NIMAPC). It has just begun to map out its far-reaching planning studies preparatory to formulation--some years hence--of a comprehensive metropolitan plan for the Illinois portion of the Metropolitan Area.

There is no comparable planning entity in northwestern Indiana with which NIMAPC can effectively cooperate, assuming legal barriers and other difficulties did not prevent official bi-state cooperation in the first place. But passage of the Interlocal Cooperation Act by the 1957 Indiana General Assembly,[1] which allows county planning units, for example, to cooperate with each other and even with Illinois planning agencies, may presage the time when genuine bi-state metropolitan planning is possible. Indiana general planning at the county level also moved forward with enactment in 1957 of the Area Planning Act, permitting more unified planning and zoning.[2]

In the Meantime

Since no existing public agency has any authority to undertake either metropolitan or port planning across the Illinois-Indiana boundary, it would seem to follow that the Port's future prospects are dim unless some new bi-state agency having authorization to conduct port planning can soon be set up. Such an agency--which may be called a Bi-State Port Commission--would attempt to prevent undisciplined port development by taking a sufficiently broad and sagacious view of the entire port situation along the lines already laid out in a preceding section. It would work closely with the NIMAPC and any other local planning agencies. It would especially cooperate with the Indiana Board of Public Harbors and Terminals in the latter's special studies and other actions looking toward eventual development of another major public harbor on the Indiana shoreline. Similarly, such a Bi-State Port Commission would base its planning on the thinking of the Illinois port agencies such as the Chicago Regional Port District, City of Chicago, Metropolitan Sanitary District, the Waukegan and Joliet Port Districts, and so on. Possibly such a Bi-State Commission would be able to provide an initial bridge between Illinois and Indiana leading ultimately to official cooperation and joint effort toward solving other types of common metropolitan problems. The actual nature of the indicated Commission is spelled out in the proposed legislation appearing as Appendix A of this Report.

Summary

Because of the fact that the Chicago Port contains several different canals, rivers, and harbors presided over by numerous political jurisdictions each having different planning, operating, and financial powers, a need exists for overall port planning which would study the alternative possibilities and lay out a comprehensive, long range, staged port plan that combines the unique features of each port facility for optimum service to the steamship lines, rail and motor carriers, shipping and receiving industries and businesses, and the public generally. One important benefit of this planning, among others, would be an enhanced ability to get the cooperation of all federal agencies.

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[1] An Act Concerning Interlocal Cooperation of Public Agencies," Chapter 118, Acts of Indiana General Assembly, 1957.

[2] An Act Authorizing the Establishment of Area Planning Departments and through their Administration the Development, through Planning and Zoning, of Urban and Rural Areas," Chapter 138, Acts of Indiana General Assembly, 1957.

However, the goal of adequate port development and planning necessitates concurrent consideration of other metropolitan-wide problems such as traffic congestion, competing demands for waterfront and other land, water supply and other municipal services, drainage and sewer provision, air pollution control, prevention of blight through better zoning and housing codes, and so on. Inasmuch as no existing metropolitan planning body can tackle any of these problems that spread across the Illinois-Indiana state line, of which effective port development is a preeminent example, it would seem to follow that due consideration should be given to creation of a new, functionally limited Bi-State Port Commission. It would work closely with any metropolitan planning groups, such as the NIMAPC. Conceivably such a step, if adopted after full and careful study of the two state legislatures, would help pave the way for other forms of bi-state cooperation toward the solution of common development problems.

CHAPTER X

CONCLUSIONS AND RECOMMENDATIONS

In order for the lower Lake Michigan area to obtain its rightful share of trade and commerce arising from or incident to the opening of the St. Lawrence Seaway, its port and waterway development must be guided and coordinated by a single regional agency charged with the responsibility for promotion of waterborne commerce. Such an agency does not presently exist.

Summary of Requirements

The port administrative requirements remaining after considering the preceding chapters are: comprehensive port planning, and port promotion and protection. All harbors in the port region have a common interest in development plans, traffic promotion, and rate adjustment in order to compete successfully with other major port areas.

Comprehensive Port Planning

Estimates of the Port region's potential trade give assurances of a progressive increase in tonnage handled through the Port and indicate the need for additional port facilities by 1962. Orderly development of these facilities in such fashion as to eliminate waste from duplicating facilities and destructive competition, and to achieve maximum efficiency through use of the most advantageous locations and through full integration with other planning agencies--these objectives necessitate that a long range comprehensive port plan be drafted in collaboration with governmental and other interested agencies. Trade economics, government planning, results of promotion and protection efforts all bear on this planning and introduce factors which are ever changing, thus requiring continual reappraisal and modification to meet the expanding future.

Port Promotion and Protection

The trade development of the port region requires an aggressive program for selling of the port. The improved vessel service and savings in transportation are powerful incentives for movement of goods; however, the many people engaged in export and import trade, bulk cargo traffic, and domestic commerce must be made aware of the improved service and its benefits. Further, the tendency for traffic through custom to continue in its same method and direction of movement must be overcome. The modification of existing rail and motor carrier rate structures to provide rates competitive with seacoast ports must be accomplished for development of the Port's potential traffic. It will require positive and continuing action before shipping agencies and regulatory bodies to correct existing rates problems in this area and to protect its position.

Possible Methods of Fulfilling The Port Administrative Requirements

Regional activities involving the two states might be effectuated by an agency of each state acting in agreement with the other, or by creation of a single new agency with bi-state responsibility. Each method would require legislation either to change the powers and duties of an existing agency, or to create a single new agency.

Single Agency in Each State

Municipalities, existing port districts, certain state departments, and the Indiana Board of Public Harbors and Terminals are public agencies performing functions in the port administrative field and therefore have adequate knowledge for state representation in that field.

1) A municipality's port agency is concerned with the port problems within its own boundaries.

2) A state department has its specific duties to perform in the state as a whole. Therefore any assignment of this type would be an additional duty--thus lacking the attribute of primary concern which is needed to accomplish results.

3) In the State of Illinois any one of the Port Districts--Chicago Regional, Joliet Regional, or Waukegan--would be hampered in its dealings with other port administration agencies in Illinois or a companion agency in Indiana by its primary mission to develop its own part of the port region, such as Lake Calumet, Joliet or Waukegan Harbor.

4) Indiana's Board of Public Harbors and Terminals is a port agency charged with new harbor construction. As a public agency it is concentrating on building Burns Harbor.

The utilization of an existing agency in each state, with augmented powers, has the disadvantages indicated. The advantages center on the avoidance of another agency in each state.

The creation of a new agency in each state with the powers and duties sufficient to meet the overall port administration requirements is, of course, possible. It could provide objectivity to the extent that the members of each body are objective. Such an approach to port problems would be a state approach on which solutions would be reached by compromise between the two state agencies rather than a regional approach with solutions based on the needs of the bi-state region. New agencies in each state, working in agreement with each other, seem more likely to obtain results than agencies presently existing in each state.

Since a single public body functioning as a bi-state agency could also meet the requirements, its possibilities should be examined.

Bi-State Agency

A single agency consisting of representatives from both states assigned the mission of fulfilling the evident port administrative requirements has advantages. It is a body with singleness of purpose but without the self-interest of a body which has concentrated previously on a sub-division of the port region; also, it would tend to be more cohesive than two state agencies working in agreement. It can have the degree of authority desired by its creators. A disadvantage would be the addition of another agency in the area; some will say it is an agency outside the normal governmental pattern and not necessarily responsive to the public interests. In answer to the latter charge, the agency would have to be created by the General Assembly and chief executive of each state and could be dissolved by either state in the same fashion. Since the local agencies would be left intact in both the bi-state and separate state agency organizations, the problem of coordination would be the same. The creation of such a bi-state body requires mutual interest in developing the Port region. Indiana demonstrated this interest in 1933. Illinois has not shown the same degree of interest until the appointment of the present Commission.

The bi-state port agencies in existence have certain pertinent common characteristics. All bi-state port agencies are: (1) port authorities in that they have either total or partial waterfront control in their port districts; (2) transportation authorities since they are empowered to engage in many types of transportation activity, water, air, highway; (3) development agencies super-imposed on existing local port administration agencies which generally have remained intact.

Associations, municipal authorities, and port agencies in Illinois have expressed general opposition to the creation of a bi-state port administration agency with any power to acquire or construct port facilities even though specific authorization of the legislature is needed to exercise such power in each instance. This opposition seems to center on a general recognition of urgent need for port facilities and a desire, therefore, to avoid any possible interference with port facilities construction underway or planned for the near future. However, there exists a general feeling that a permanent commission with regional (bi-state) interests, as distinguished from an authority with waterfront control, is necessary to cope with port development planning, promotion and protection problems which exist in the port region.

A Chicago Daily News editorial of September 22, 1958 said in reference to a leading Chicago terminal operator's voiced opposition to a joint Illinois-Indiana port authority:

> "The Daily News as early as 1955 advocated a joint approach by Illinois and Indiana to the problem of developing adequate port facilities in the Chicago-Gary area to meet the expected increase in water traffic as a result of the St. Lawrence Seaway.
>
> ". . . . Even if he is wholly correct in opposing a bi-state rule over port affairs, joint studies of the probable needs of the two areas are important if orderly port progress is to be achieved.
>
> ". . . . Both Illinois and Indiana are going to be vitally affected by the opening of the Seaway and neither state can afford to ignore what the other is doing."

Indiana's concentration since 1939 on development of a public lakefront harbor in Indiana has diverted its attention from the regional aspects of the port problems in the lower Lake Michigan area. Furthermore, until the Burns Harbor location, selected in 1949, is resolved, that is, approved by the U. S. Army Corps of Engineers for improvement as a harbor, it appears that Indiana for the present will be reluctant to revive the bi-state question in the Indiana legislature. On the other hand, Indiana is aware of regional port problems and the Governor of Indiana has appointed a new committee, the Northern Indiana Lake Front Study Committee, with one of its primary functions to make a study of an extension of the Sag Canal to Gary, with the cooperation of Illinois authorities.

The Chiago Daily Tribune had this to say about "Illinois-Indiana Port Rivalry" as the subject of an editorial on January 23, 1959:

> "Every study of long term harbor needs in Chicago has indicated that the best place for a port development and for port associated industries is on the lake shore behind an extended Calumet breakwater straddling the Illinois-Indiana boundary. For 25 years The Tribune has been urging planning of this project by a bi-state organization with at least enough powers to prevent incompatible developments nearby.
>
> "In the absence of this control, mistakes already have been made in highway planning. The Indiana Toll Road commission chose a route near the lakefront, rejecting the opportunity to connect with the Kingery and Calumet expressways in Illinois. As a result, Chicago felt obliged to build the Calumet Skyway to handle Indiana toll road traffic, and many potential sites for industries and workers' homes have been destroyed or harmed.
>
> "There is no chance for immediate establishment of a bi-state authority with extensive powers, state and political rivalries being what they are, but Illinois and Indiana ought to work together to prevent further mistakes in planning. Competition is fine in some fields, but not where it discourages industrial development and encourages waste of tax funds."

Summary

An independent agency created outside of the present port administrative agencies by the General Assembly of each state appears preferable. A bi-state agency offers the advantage of arriving at solutions from a regional approach while the separate state agencies would tend to individual state solutions and probably arrive at agreements by compromise. The separate state agencies would be more loosely knit and more adapted to a temporary rather than a permanent agency. The bi-state agency is preferred when agreement can be reached between the two states. In the meantime, cooperation between the two states by means of separate state agencies appointed in the manner desired by each state and empowered to study and confer on port matters, seems to be all that can be obtained.

Conclusions

The port administrative needs of the lower Lake Michigan area require the joint action of Illinois and Indiana to fulfill these needs to assure that the area will receive its rightful share of trade and commerce from the waterways improvements completed or underway. Ample precedent exists for the establishment of a bi-state port administration agency charged with the responsibility for performance of those regional responsibilities outlined above and necessary to meet the port administration requirements of the region. Conditions in the lower Lake Michigan area do not warrant charging such an agency with the variety of transportation functions common to the three bi-state agencies in existence. Waterfront control permitted each of these agencies, even though it does not replace public port agencies in existence, is not considered essential at this time for the lower Lake Michigan area. Port administrative agencies in being are generally adequate to meet the existing local needs providing port development planning, trade promotion and protection support on a regional basis is made available.

Indiana's interest in development of a lakefront harbor east of Gary and concern that creation of a bi-state agency might delay such a development has eliminated any chance of bi-state legislation in the current (1959) session of the Indiana General Assembly. However, the appointment of the Northern Indiana Lake Front Study Committee by the Governor of Indiana with the mission of studying waterways developments in cooperation with Illinois authorities provides a group with which a counterpart from Illinois could work in consideration of port development matters.

An Illinois group similar to the present Illinois-Indiana Bi-State Development and Study Commission, in addition to cooperation with Indiana in study of mutual waterway development problems, has the important area of port promotion and protection in which it could effectively work to develop waterborne commerce.

Recommendations

I. After consideration of the port problems in the lower Lake Michigan area, the possible methods of meeting these problems and the type port administrative agencies in effect elsewhere in the United States, including the Great Lakes ports, and recognizing the inability of Indiana to implement this recommendation at this time, the Commission recommends the establishment at the earliest practicable date of a bi-state port administrative agency by the States of Indiana and Illinois to be known as the "Illinois-Indiana Bi-State Development Commission" and the creation of the "Illinois-Indiana Bi-State Development District." Proposed legislation in implementation of this recommendation and discussion in explanation thereof is included as Appendix A.

II. Since the Indiana Lake Front Study Committee and the Governor of Indiana do not consider it practicable to recommend to the Indiana General Assembly consideration of the proposed legislation recommended in I above in the current session, and

Since the Governor of Indiana recommends cooperation between Illinois and Indiana on port and waterways matters by means of the Northern Indiana Lake Front Study Committee appointed by the Governor of Indiana and authorities of the State of Indiana, and

Since it is believed essential to further cooperation on port and waterway matters between the States of Indiana and Illinois in the interests of obtaining for the lower Lake Michigan area its rightful share of trade and commerce generated by or incident to the waterways and harbor improvements in progress and planned by the United States and Indiana and Illinois, this Commission recommends as an interim measure the creation by the Illinois General Assembly in the current (1959) session of a commission to continue the work of the Illinois-Indiana Bi-State Development and Study Commission and to cooperate with the Northern Indiana Lake Front Study Committee. The organization of the Commission and its powers and duties are recommended in the Proposed Legislation included as Appendix B. The major features of the legislation are presented in the next section.

Legislation

The proposed interim Commission is charged with performing the following duties:

1) To conduct a thorough study and investigation into the problems involved in obtaining for the lower Lake Michigan area its rightful share of trade and commerce arising from or incident to the opening of the St. Lawrence Seaway and in providing adequate facilities for handling such trade and commerce in such area, such as port and harbor development, causeways, breakwaters and other shipping and navigational aids.

2) Generally to use its best endeavors to bring into existence a full development of the lower Lake Michigan area as a center of water transportation and thus accomplish the complete realization of the natural advantages of this area.

In accomplishing its duties the Commission would cooperate with the Northern Indiana Lake Front Study Committee in study of mutual problems involving the harbors and waterways of the area. In addition, it would conduct such other studies as its mission outlined in (1) above indicates.

A provision is made for an advisory council consisting of representatives of industry, government, ports, associations and agencies if the Commission deems such a group desirable or necessary. The Commission would prescribe the method of selection and the number of members of the Council.

Limited funds remaining from its predecessor body's operations are recommended to be made available to the new commission for salaries of minimum staff, office expenses, travel expenses of commission members and staff.

APPENDIX A

PROPOSED ACTS FOR THE CREATION OF THE "ILLINOIS-INDIANA BI-STATE DEVELOPMENT DISTRICT"

In order to accomplish its intended purpose the Development Commission should have the following assigned duties within the prescribed limits of the Development District:

1) To study all important water terminal proposals in the said Development District;
2) To study the existing harbor plans therefor and to consider such changes and modifications as may be required by the continuous development therein and to meet changing business and commercial needs;
3) From time to time to make plans for the development of the Development District; and when such plans are duly developed after public hearings, the Commission shall commend the same to the legislatures of the two states;
4) To study, prepare and recommend by specific proposals changes in the jurisdiction of the Development Commission;
5) To petition and negotiate with and/or institute, prosecute or intervene in litigation before any interstate commerce commission (or like body), or any other federal, municipal, state or local authority, administration, judicial or legislative, having jurisdiction in the premises for the adoption and execution of any physical improvement, change in method, rate of transportation, system of handling freight, warehousing, docking, lightering or transfer of freight, which in the opinion of the Development Commission, may be designed to improve or better the handling of commerce in and through the said Development District, or improve terminal and transportation facilities therein;
6) To employ all available authorized means to bring into existence and maintain a full development of commerce in the said Development District.

What Would It Do?

The agency would prepare a comprehensive port development plan for the proposed port district in collaboration with existing port and area planning agencies. This plan, under continual revision to meet the changing factors involved, would provide the location and number of facilities required in the next 15 or 20 years which, integrated with existing facilities, would meet the needs of the district. It would also provide a master plan which would give the timing of the required construction to enable all agencies--federal, state, and local--to take necessary legislative, financial and engineering action. It would also take action to promote the required development to assure financial and public support.

It would take action in the common interest to protect and promote the best interest of the port district where rates, service or operating conditions, and legislation requires intervention. This will require participation in rate cases before regulatory and rate making bodies, appearance before legislative and improvement bodies,--federal, state, and local. Export-import rates, pilotage laws, tolls are only a few items which require attention. The need is a continuing one.

The promotion of the port to bring its advantages to the attention of shippers locally, in the hinterland and overseas is another mission of the Commission. Other ports have representation in our area and overseas. The promotion will also take the form of encouraging and promoting more effective handling and service within the port to produce the most comprehensive, efficient, and economical operation possible and thus assure its saleability. Port services, domestic bulk and general cargo traffic, foreign bulk and general cargo traffic, industrial development that will generate port traffic, all must be promoted.

Finally, if study reveals the need for additional steps to be taken to further the full development of commerce in the District, and beyond the powers of the Commission to accomplish, it is the duty of the Commission to make specific proposals to the legislature.

Membership

The governing body of the Development Commission should consist of a sufficient number of members from each state to provide a cross section of business, industry, labor and the professions. Five members from each state are deemed adequate. The members are appointed by the Governor by and with the advice and consent of the Senate, from qualified voters residing in the Development District. While it is desirable that members not all be from the same city or county, it is not deemed prudent to hamper the appointing authority since selection of men of high stature is imperative for success of the Commission.

The Commission is a policy making body acting in the capacity of a business corporation, hence business acumen on the part of its members is essential. The members should not be elected officials.

Equal representation from each state is considered essential.

Provision is made for the creation of an advisory council to the Commission to consist of representatives from business, labor and civic bodies in the District as deemed necessary by the Commission. This council, if created, would deal with matters of general policy with respect to the port and bring close contact with the various interests of the port.

Finance

The provision of a comprehensive port development plan, under continual revision, which would show the facilities needed, their proposed location, and the construction staging required would be a powerful aid in attracting financial interest in port facilities construction. The actual method of financing, if constructed by a public agency, would depend on the method which best meets the public interest. In some cases, enabling acts of existing port agencies require revenue bond financing, others permit both revenue and general obligation bond financing along with acceptance of grants, donations and so forth.

Since the need for a facility would be established by a comprehensive plan, the type of financing required by the situation and the public interest could be carried out with reasonable assurance that eventually it would pay its way.

In the legislation proposed, construction would be performed as required by the existing port administrative agencies. The proposed Development Commission has no authority to construct or operate facilities.

Financing will be required for the activities of the Commission covered by appropriations initially. Suitable methods of financing, other than from appropriations, is a proper subject for future study and recommendation by the Commission.

The initial staff would consist of an Executive Director, an Engineer for port development planning, a Traffic Representative, a Trade Promotion Representative, an Administrative Assistant, Legal Counsel part time, necessary clerical and office expense. Annual budget is estimated at $75,000, exclusive of consultant fees, and rental for office space.

Consultant fees are estimated at a total of $50,000 for the initial biennium. The source of funds required for cargo solicitation and promotion will require study and development by the Commission. The establishment of a traffic bureau in the area is a possibility which warrants consideration and study.

Form and Procedures

The legislation recommended follows the compact form proposed by the Chicago Regional Port Commission, a Joint Illinois-Indiana Commission, in 1933. It consists of three Acts: Act I embodies the compact between the states of Indiana and Illinois, pledging the cooperation of the two states in the expansion of commerce and the planning and development of the port and waterway facilities in the development district and establishing an Illinois-Indiana Bi-State Development Commission for this purpose. Act II appoints the commissioners to serve on the Illinois-Indiana Bi-State Development Agency and provides for its operation. Act III provides for making an appropriation for the expenses of the Commission.

Upon enactment into law of Act I by both states, the Development Commission is then authorized to apply to the Congress of the United States for approval of the compact.

The Illinois and Indiana bills will be identical as far as Act I--The Compact--is concerned. They will also be alike in substance on other essential phases, but they may differ somewhat as to form and wording to conform with the legislative practices of each state.

ACT I

AN ACT to enter into a compact with the State of Indiana for the creation of the "Illinois-Indiana Bi-State Development District", the establishment of the "Illinois-Indiana Bi-State Development Commission", and the defining of the powers and duties of such Commission.

ILLINOIS-INDIANA BI-STATE DEVELOPMENT DISTRICT - RECITALS -

ARTICLES OF COMPACT.

SECTION 1. Be it enacted by the general assembly of the State of Illinois, That the State of Illinois hereby enters into a compact with the State of Indiana in the manner and form as follows:

WHEREAS, There is a great lake, river and rail commerce, at, near, and through the ports of Lake Michigan and the waters tributary thereto, in the states of Illinois and Indiana, which commerce is not only local but is also interstate, national and international; and

WHEREAS, This location is also at the end of the deep water navigation of the Great Lakes and also at the northern terminus of the Great Lakes-Gulf Waterway, via the Chicago Sanitary and Ship Canal, the Calumet Sag-Canal, the Des Plaines, Illinois and Mississippi Rivers and other waterways; and

WHEREAS, There is an urgent need for the creation of a government body to plan and co-ordinate port and waterway development programs; and

WHEREAS, Such a body can be best created through the cooperation of the two states in the formation of a joint or common agency.

NOW THEREFORE, The said states of Indiana and Illinois do hereby solemnly covenant and agree, each with the other, as follows:

ARTICLE I.

DEVELOPMENT OF PORT AND WATERWAY FACILITIES - COOPERATION.

They agree to and pledge each to the other, faithful cooperation in the expansion of commerce and the planning and development of the port and waterway facilities in the development district of their respective states, holding in high trust for the benefit of the nation, the special blessing and natural advantages thereof.

ARTICLE II.

ILLINOIS-INDIANA BI-STATE DEVELOPMENT DISTRICT - CREATION - DESIGNATION.

To that end they do agree that there shall be created and they do hereby create, "Illinois-Indiana Bi-State Development District" (hereinafter referred to as the "Development District") which shall consist of the territorial waters of Lake Michigan within the respective boundaries of the two states, between the Illinois-Wisconsin state boundary line and the Indiana-Michigan state boundary line and including the counties of Lake, Cook, DuPage, Will and Kane in Illinois and the counties of Lake, Porter and LaPorte in Indiana.

ARTICLE III.

DEVELOPMENT COMMISSION - CREATION

There is hereby created "The Illinois-Indiana Bi-State Development Commission", (hereinafter referred to as the "Development Commission"), having the powers and jurisdiction hereinafter enumerated.

ARTICLE IV.

DEVELOPMENT COMMISSION-ORGANIZATION-APPOINTMENT OF MEMBERS-TERMS.

The Development Commission shall consist of ten commissioners, five of whom shall be resident voters of the State of Indiana and five of whom shall be resident voters of the State of Illinois. All commissioners shall reside within the Development District, the Indiana members to be chosen by the State of Indiana and the Illinois members by the State of Illinois in the manner and for the terms fixed by the legislature of each state except as herein provided.

The Development Commission shall elect from its number a chairman, a vice-chairman and may appoint such officers as it may require for the performance of its duties.

ARTICLE V.

SALARIES-APPROPRIATIONS

Until otherwise determined by the action of the legislature of the two states, the Development Commission shall not incur any obligations for salaries, office or other administrative expenses, prior to the making of appropriations adequate to meet the same.

ARTICLE VI.

COMMISSIONERS - COMPENSATION

The Commissioners shall serve without compensation but shall be entitled to be reimbursed for the necessary expenses incurred in the performance of their duties.

ARTICLE VII.

DEVELOPMENT COMMISSION-BOARD-BY-LAWS-RULES AND REGULATIONS.

The members of the Development Commission shall, for the purpose of doing business, constitute a board and may adopt suitable by-laws for its management, and prescribe reasonable rules and regulations for enforcing the powers hereinafter enumerated.

Until otherwise determined by the legislatures of the two states no action of the Development Commission shall be binding unless taken at a meeting at which at least three members from each state are present, and unless a majority of the members from each state present at such meeting shall vote in favor thereof. Each state reserves the right hereafter to provide by law for the exercise of the veto power by the governor thereof over any action of any commissioners appointed therefrom.

ARTICLE VIII.

DEVELOPMENT COMMISSION - POWERS.

The Development Commission shall have planning and advisory functions only, the duties hereinafter stated.

Nothing contained in this agreement shall impair the titles or powers of any municipality or existing port authority or district to terminal or other facilities or to develop or improve the same.

ARTICLE IX.

DEVELOPMENT COMMISSION - DUTIES.

It shall be the duty of the Development Commission:

(a) To study all important water terminal proposals in the said Development District;

(b) To study the existing harbor plans therefor and to consider such changes and modifications as may be required by the continuous development therein and to meet changing business and commercial needs;

(c) From time to time to make plans for the development of the Development District; and when such plans are duly developed after public hearings, the Commission shall commend the same to the legislatures of the two states.

(d) To study, prepare and recommend by specific proposals changes in the jurisdiction of the Development Commission.

(e) To petition and negotiate with and/or institute, prosecute or intervene in litigation before any interstate commerce commission (or like body), or any other federal, municipal, state or local authority, administration, judicial or legislative, having jurisdiction in the premises for the adoption and execution of any physical improvement, change in method, rate of transportation, system of handling freight, warehousing, docking, lightering or transfer of freight, which in the opinion of the Development Commission, may be designed to improve or better the handling of commerce in and through the said Development District, or improve terminal and transportation facilities therein;

(f) To employ all available authorized means to bring into existence and maintain a full development of commerce in the said Development District.

ARTICLE X.

DEVELOPMENT COMMISSION - SUITS - REPRESENTATION - ATTORNEY GENERAL.

For the purposes enumerated herein and upon request of the Development Commission the Attorney General of each state shall have the power to represent the Development Commission in all suits, actions, proceedings, hearings or investigations relating to facilities in their respective states and to invoke therefor all the powers of their respective states. The Attorneys General may, by joint agreement, act jointly for the Development Commission.

ARTICLE XI.

DEVELOPMENT COMMISSION - EMPLOYEES.

The Development Commission shall establish headquarters in a county of the Development District and may employ such engineering, legal and traffic experts, other assistants, and incur such other expenses as may be necessary to exercise and discharge effectively the powers and duties enumerated in this agreement or compact subject to the provisions of Article V. hereof.

ARTICLE XII.

DEVELOPMENT COMMISSION - EXPENSES - EQUAL APPORTIONMENT.

Except as hereinafter provided for, the expenses of the Development Commission shall be borne equally by both states, and it shall be the duty of the Development Commission to recommend to each regular session of the general assembly of each state the sum or sums necessary for the salaries, office and other expenses.

EFFECTIVE DATE OF ACT - CONTINGENCY.

SEC. 2. This act shall take effect upon the enactment into law by the State of Indiana of legislation having a substantially similar effect with this Act and embodying the agreement herein set forth:

APPROVAL OF CONGRESS OF THE UNITED STATES

SEC. 3. The Development Commission shall have the power to apply to the Congress of the United States for its consent and approval of the Compact; and in the absence of such consent of Congress and until the same shall have been secured, the Compact shall be binding upon the State of Illinois in all respects permitted by law for the two states of Indiana and Illinois without the consent of Congress to cooperate, for the purposes enumerated in the Compact, and in the manner provided therein.

VALIDITY.

SEC. 4. If any section, sentence, subdivision of clause of this Act is for any reason held invalid or to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Act.

ACT II

AN ACT

Authorizing the appointment of commissioners of the Illinois-Indiana Bi-State Development Commission created by compact between the states of Indiana and Illinois, providing for their terms of office, qualifications and expenses, defining their powers and duties and providing for the transfer to them of all maps, plans and other properties now in the possession of the commission appointed pursuant to House Bill No. 846 of the 70th General Assembly of the State of Illinois.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS REPRESENTED IN THE GENERAL ASSEMBLY, AS FOLLOWS:

Section 1. Within ninety days after the approval by the Congress of the United States of a compact between the States of Indiana and Illinois, creating an Illinois-Indiana Bi-State Development Commission the governor shall, by and with the advice and consent of the Senate, appoint five commissioners of the Illinois-Indiana Bi-State Development Commission created by compact between the States of Indiana and Illinois. If the Senate is not in session at the time for making any appointment, the governor shall make a temporary appointment as in case of a vacancy. All commissioners so appointed shall be qualified voters of the State of Illinois and shall reside within the Illinois-Indiana Bi-State Development district established by the compact.

Section 2. Of the commissioners first appointed one shall be appointed to serve for a term of one year, one for two years, one for three years, one for four years and one for five years from the third Monday in January following his appointment. At the expiration of the term of each commissioner and each succeeding commissioner, the governor shall, by the with the advice and consent of the Senate, appoint a successor who shall hold office for a term of five years. Each commissioner shall hold office until his successor has been appointed and qualified. One commissioner shall be designated as Chairman of the Illinois delegation.

Section 3. Vacancies occurring in the office of any commissioner shall be filled by appointment by the Governor, by and with the advice and consent of the Senate for the unexpired term. In any case of vacancy, while the senate is not in session, the Governor shall make a temporary appointment until the next meeting of the Senate, when he shall nominate some person to fill such office.

Section 4. The commissioners shall serve without compensation but shall be entitled to be reimbursed for the necessary expenses incurred in the performance of their duties.

Section 5. The commissioners shall have the powers and duties and be subject to the limitations provided for in the compact entered into between the two States, and together with five commissioners from the State of Indiana shall form the "Illinois-Indiana Bi-State Development Commission."

Section 6. The commissioners of the "Illinois-Indiana Bi-State Development Commission" shall receive and take over the furniture, fixtures, books, maps, plans, records, reports, pictures, sketches, films, and other papers and property of what kind soever pertaining or belonging to or in the custody of the members of the commission appointed pursuant to House Bill No. 846 of the 70th General Assembly, or in their possession or under their control as such commissioners, or held by them for which they are responsible in their official capacity.

Section 7. The commissioners of the "Illinois-Indiana Bi-State Development Commission" shall take up, study and consider the recommendations of the Illinois-Indiana Bi-State Development and Study Commission appointed pursuant to House Bill No. 846 of the

70th General Assembly, and as they deem necessary, shall hold public hearings, confer with the federal, state and municipal governing bodies within the District, and any other bodies having to do with District facilities, and for the purpose of securing advice and information, create an advisory council of representatives of business, labor and other civic bodies within the District, whose objectives include consideration of the matters embraced in the compact.

Section 8. The commissioners of the "Illinois-Indiana Bi-State Development Commission" shall report to the legislature of the two states during January, 1961, the results of such study, investigation, hearings and conference, and shall submit a "Comprehensive Plan for the Development of the District", based upon the results of such study, investigation, hearings and conferences, together with their recommendations for such legislation as they deem appropriate for the effectuation and consummation of such plan.

ACT III

ILLINOIS-INDIANA BI-STATE DEVELOPMENT COMMISSION

1. Appropriation of _____ to pay proportionate share _____

An Act making an appropriation for the ordinary and contingent expenses of the Illinois-Indiana Bi-State Development Commission.

Be it enacted by the People of the State of Illinois represented in the General Assembly:

Section 1. The sum of _____, or so much thereof as may be necessary, is appropriated to provide for the ordinary and contingent expenses of the Illinois-Indiana Bi-State Development Commission for the biennium beginning July 1. This appropriation shall be used only to pay the proportionate share chargeable to the territory in the Illinois-Indiana Bi-State Development district which is located in the State of Illinois.

APPENDIX B

PROPOSED LEGISLATION

71st G. A. BILL NO. H B 1959

A BILL

For an Act to create an Illinois Development and Study Commission, to define its powers and duties, and to make an appropriation therefor.

WHEREAS, Upon the completion of the St. Lawrence Seaway and allied waterways improvements underway and planned it is anticipated that the volume of commerce and trade entering and leaving ports bordering on the Great Lakes will increase tremendously; and

WHEREAS, It is essential to the continued growth of the metropolitan areas of the lower Lake Michigan area that such metropolitan areas be able to take advantage of and to receive their rightful share of such trade and commerce, but in order to do so it will be necessary that existing facilities and aids for shipping be expanded and new facilities and aids be provided for: therefore

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. The Illinois Development and Study Commission, hereinafter called the Commission, is created. The Commission shall be composed of 3 members of the House of Representatives appointed by the Speaker thereof, 3 members of the Senate appointed by the President pro tempore thereof and 3 persons appointed by the Governor. Of the members appointed by each appointing power, no more than two shall be affiliated with the same political party. The terms of all members shall expire June 30, 1961 and appointments shall be made prior to August 31, 1959. Vacancies in the membership of the Commission shall be filled in the same manner as original appointments are made.

The Commission shall hold an organizational meeting prior to September 30, 1959 and shall elect from its membership a chairman, secretary and such other officers as it deems necessary.

Section 2. As used in this Act, "lower Lake Michigan area" means all the territory included in the counties in Illinois-Indiana that border on Lake Michigan and the counties of Kane, DuPage and Will counties in Illinois.

Section 3. The Commission shall:

a. Conduct a thorough study of the problems involved in obtaining for the lower Lake Michigan area its rightful share of trade and commerce arising from or incident to the opening of the St. Lawrence Seaway and in providing adequate facilities for handling such trade and commerce in such area, such as port and harbor development, causeways, breakwaters and other shipping and navigational aids.

b. Generally to use its best endeavors to bring into existence a full development of the commerce of the lower Lake Michigan area as a center of water transportation and thus accomplish the complete realization of the natural advantages of this area.

Section 4. The Commission, in the conduct of its study and investigation, may meet and cooperate with any commission, board, authority or agency created by the State of Indiana having similar duties, powers or purposes as the Commission created by this Act, and with any agency of the Federal government having jurisdiction over shipping or navigation or the making of navigational improvements in the lower Lake Michigan area. Further, the Commission may appoint an advisory council consisting of representatives chosen in such numbers and in such a manner as it may desire from major industries, associations or agencies, municipalities, and ports in the area.

Section 5. The Commission may employ and fix the compensation of necessary assistants and technical and clerical personnel.

Section 6. The Commission shall report its findings and recommendations to the Seventy-Second General Assembly not later than January 15, 1961, together with drafts of proposed legislation necessary to make its recommendations effective.

Section 7. The sum of $_____ or so much thereof as may be necessary is appropriated to the Commission for carrying out the purposes of this Act.

APPENDIX C

ILLINOIS-INDIANA BI-STATE DEVELOPMENT AND STUDY COMMISSION

PREAMBLE.

1. Creates Commission Members.
2. Area Defined.
3. Study and Investigation.
4. Cooperate Study.
5. Employees.
6. Report.
7. Appropriates $50,000.00

(HOUSE BILL No. 846. Approved July 6, 1957.)

An Act to create an Illinois-Indiana Bi-State Development and Study Commission, to define its powers and duties, and to make an appropriation therefor.

WHEREAS, Upon the completion of the St. Lawrence Seaway it is anticipated that the volume of commerce and trade entering and leaving ports bordering on the Great Lakes will increase tremendously; and

WHEREAS, It is essential to the continued growth of the metropolitan areas of the lower Lake Michigan area that such metropolitan areas be able to take advantage of and to receive their rightful share of such trade and commerce, but in order to do so it will be necessary that existing facilities and aids for shipping be expanded and new facilities and aids be provided for; therefore

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. The Illinois-Indiana Bi-State Development and Study Commission, hereinafter called the Commission, is created. The Commission shall be composed of 3 members of the House of Representatives appointed by the Speaker thereof, 3 members of the Senate appointed by the President pro tempore thereof and 3 persons appointed by the Governor. Of the members appointed by each appointing power, no more than two shall be affiliated with the same political party. The terms of all members shall expire June 30, 1959, and appointments shall be made prior to September 30, 1957. Vacancies in the membership of the Commission shall be filled in the same manner as original appointments are made.

The Commission shall hold an organizational meeting prior to November 1, 1957 and shall elect from its membership a chairman, secretary and such other officers as it deems necessary.

Section 2. As used in this Act, "lower Lake Michigan area" means all the territory included in the counties in Illinois and Indiana that border on Lake Michigan.

Section 3. The Commission shall conduct a thorough study and investigation into the problems involved in obtaining for the lower Lake Michigan area its rightful share of trade and commerce arising from or incident to the opening of the St. Lawrence seaway and in providing adequate facilities for handling such trade and commerce in such area, such as port and harbor development, causeways, breakwaters and other shipping and navigational aids.

Section 4. The Commission, in the conduct of its study and investigation, may meet and cooperate with any commission, board, authority or agency created by the State of Indiana having similar duties, powers or purposes as the Commission created by this Act, and with any agency of the Federal government having jurisdiction over shipping or navigation or the making of navigational improvements in the lower Lake Michigan area.

Section 5. The Commission may employ and fix the compensation of necessary assistants and technical and clerical personnel.

Section 6. The Commission shall report its findings and recommendations to the Seventy-First General Assembly not later than April 15, 1959, together with drafts of proposed legislation necessary to make its recommendations effective.

Section 7. The sum of $50,000 or so much thereof as may be necessary is appropriated to the Commission for carrying out the purposes of this Act.

Passed in General Assembly June 21, 1957.

Approved July 6, 1957.

APPENDIX D

ACTS 1933 -- STATE OF INDIANA

CHAPTER 272

AN ACT to enter into an agreement or compact with the State of Illinois for the creation of the "Interstate Port District of Illinois and Indiana," the establishment of the "Interstate Port Authority of Illinois and Indiana," and the defining of the powers and duties of such authority.

(S. 251. Approved March 11, 1933.)

INTERSTATE PORT DISTRICT OF ILLINOIS AND INDIANA - RECITALS - ARTICLES OF AGREEMENT.

SECTION 1. Be it enacted by the general assembly of the State of Indiana, That the State of Indiana hereby enters into an agreement or compact with the State of Illinois in the manner and form as follows:

WHEREAS, There is a great lake, river and rail commerce, at, near, and through the ports on Lake Michigan and the waters tributary thereto, in the states of Illinois and Indiana, which commerce is not only local but is also interstate, national and international; and

WHEREAS, This location is also at the end of the deep water navigation of the Great Lakes and also at the northern terminus of the Great Lakes-Gulf Waterway, via the Chicago Sanitary and Ship Canal, the Calumet-Sag Canal, the Des Plaines, Illinois and Mississippi Rivers and other waterways; and

WHEREAS, There is an urgent need for the creation of a governmental body to co-ordinate port and waterway development programs and to exercise certain jurisdiction over the aforesaid region; and

WHEREAS, Such a body can be best created through the cooperation of the two states in the formation of a joint or common agency.

NOW THEREFORE, The said states of Indiana and Illinois do hereby solemnly covenant and agree, each with the other, as follows:

Article I.

DEVELOPMENT OF PORT AND WATERWAY FACILITIES-COOPERATION.

They agree to and pledge each to the other, faithful cooperation in the expansion of commerce and the planning and development of the port and waterway facilities in the interstate port district of their respective states, holding in high trust for the benefit of the nation, the special blessing and natural advantages thereof.

Article II.

INTERSTATE PORT DISTRICT OF ILLINOIS AND INDIANA-CREATION-DESIGNATION.

To that end they do agree that there shall be created and they do hereby create, "The Interstate Port District of Illinois and Indiana" (for brevity hereinafter referred to as the "Port District") which shall consist of the waters of Lake Michigan within the respective boundaries of the two states, including all harbors, piers, breakwaters and structures therein, between the Illinois-Wisconsin state boundary line and the Indiana-Michigan state boundary line; the Chicago River and its branches to their respective sources and all slips adjacent to and connecting therewith; the Ogden Canal; the waters of Lake Calumet and of Wolf Lake and all slips and basins

connected therewith and all piers, breakwaters and structures therein; the Calumet River and its branches, including the Grand Calumet and the Little Calumet Rivers, to their respective sources, and all slips adjacent to and connecting therewith; the Des Plaines River from the north line of section 27, township 36 north (,) range 10 east of the third principal meridian to its point of confluence with the Rock Run River; the Chicago Sanitary and Ship Canal, the Calumet-Sag Canal, the North Shore Canal, and all slips and basins adjacent to and connecting therewith; Trail Creek and the Indiana Harbor Canal.

Article III.

PORT AUTHORITY - CREATION

There is hereby created "The Interstate Port Authority of Illinois and Indiana," hereinafter referred to as the "Port Authority," having the powers and jurisdiction hereinafter enumerated, and such other and additional powers as shall be conferred upon it from time to time by the legislature of either state concurred in by the legislature of the other.

Article IV.

PORT AUTHORITY-ORGANIZATION-APPOINTMENT OF MEMBERS-TERMS.

The Port Authority shall consist of two members appointed by the Governor of the State of Illinois for Initial designated terms of two and four years respectively, one of whom shall be a resident of a county adjacent to the Port District; two members appointed by the Governor of the State of Indiana for like terms and conditions of residence and a chairman to be appointed by the joint concurrence of the governors of both states for a term of four years. After the original appointments all terms shall be of four years duration.

Article V.

SALARIES-APPROPRIATIONS

All salaries, office and other expenses hereinafter provided for shall be contingent upon appropriations made from time to time by the legislature of either state concurred in by the legislature of the other.

Article VI.

CHAIRMAN-SALARY

The chairman of the port authority shall be the only salaried member thereof but all members shall be reimbursed for actual expenses incurred while engaged upon official port authority business.

Article VII.

PORT AUTHORITY-BOARD-BY-LAWS-RULES AND REGULATIONS.

The members of the port authority shall, for the purpose of doing business, constitute a board and may adopt suitable by-laws for its management, and prescribe reasonable rules and regulations for enforcing the powers hereinafter enumerated.

ARTICLE VIII.

PORT AUTHORITY-POWERS-TERMINALS.

The port authority shall have the right, power and authority and such right, power and authority are hereby granted within the port district as defined by Article II hereof:

To acquire, own, construct, lease, operate and maintain such port and water terminal facilities as may be specifically authorized by the act of the legislature of either state, or by the joint action of the legislature of either state, or by the joint action of the legislatures of both states, and to fix and collect charges for the use of such facilities.

Article IX.

PORT AUTHORITY-DUTIES.

It shall be the duty of the port authority:

(a) To study all important water terminal proposals in the said port district;

(b) To study the existing harbor plans therefor and to consider such changes and modifications as may be required by the continuous development therein and to meet changing business and commercial needs;

(c) To make recommendations to the proper authorities having jurisdiction for such action as may be necessary to complete and maintain an efficient terminal plan for the said port district;

(d) To study, prepare and recommend by specific proposals changes in the jurisdiction of the port authority;

(e) To petition and negotiate with and/or institute, prosecute or intervene in litigation before any interstate commerce commission (or like body), public service commission, public utilities commission (or like body), or any other federal, municipal, state or local authority, administrative, judicial or legislative, having jurisdiction in the premises for the adoption and execution of any physical improvement, change in method, rate of transportation, system of handling freight, warehousing, docking, lightering or transfer of freight, which in the opinion of the port authority, may be designed to improve or better the handling of commerce in and through the said district, or improve terminal and transportation facilities therein;

(f) To employ all available authorized means to bring into existence and maintain a full development of commerce in the said port district.

Article X.

PORT AUTHORITY-SUITS-REPRESENTATION-ATTORNEY GENERAL.

For the purposes enumerated herein and upon request of the port authority the attorney general of either state shall have the power to represent the port authority in all suits, actions, proceedings, hearings or investigations and to invoke therefor all the powers of the States of Illinois and Indiana.

Article XI.

PORT AUTHORITY-EMPLOYEES.

The port authority shall establish headquarters in a county adjacent to the public waters of the port district and may employ such engineering, legal and traffic experts, other assistants, and incur such other expenses as may be necessary to exercise and discharge effectively the powers and duties enumerated in this agreement or compact subject to the provisions of Article V hereof.

Article XII.

PORT AUTHORITY-EXPENSES-EQUAL APPORTIONMENT.

Except as hereinafter provided for, the expenses of the port authority shall be borne equally by both states, and it shall be the duty of the port authority to recommend to each regular session of the general assembly of each state the sum or sums necessary for the salaries, office and other expenses.

Article XIII.

TERMINALS WITHIN STATE-AT COST OF STATE.

Should the legislature of either state empower the port authority to acquire, construct, own, lease, operate and maintain port and terminal facilities within the limits of such state the enabling act will provide that all costs involved in such ownership, operation, and maintenance shall be at the expense of such state.

CONSTRUCTION OF ACT.

SEC. 2. Nothing contained in this act shall be construed to repeal any part or parts of "An act creating a department of conservation, defining its powers and duties, and abolishing certain offices, boards and departments, and making an appropriation," approved March 11, 1919, as amended, or "An act concerning municipal corporations," approved March 6, 1905, as amended, or an act entitled 'An act to authorize the owner or owners of land bordering upon the waters of Lake Michigan in this state to fill in, reclaim and own the submerged land covered by the shallow waters adjacent to and between such land and the dock or harbor line established by the United States, and declaring an emergency,' approved March 2, 1907, as amended.

CHICAGO REGIONAL PORT COMMISSION-INSTRUCTION.

SEC. 3. The Chicago regional port commission, authorized to conduct certain investigations by the act approved March 11, 1931 (Laws of 1931, p. 555) is hereby further authorized and directed to negotiate with the State of Illinois in order to effect the passage and approval of an act similar to this act, and to apply to the Congress of the United States for its consent and approval to the compact or agreement herein contained. In the absence of the aforesaid consent of the congress of the United States and until the same shall be secured, the compact or agreement herein contained shall be binding upon the State of Indiana in all respects permitted by law for it to co-operate with another state for the purposes enumerated therein.

EFFECTIVE DATE OF ACT-CONTINGENCY.

SEC. 4. This act shall take effect upon the enactment into law by the State of Illinois legislation having a substantially similar effect with this act and embodying the agreement herein set forth; and thereupon the governor shall be and he hereby is authorized to sign and seal this compact for and on behalf of the State of Indiana.

VALIDITY.

SEC. 5. If any section, sentence, subdivision or clause of this act is for any reason held invalid or to be unconstitutional, such decision shall not affect the validity of the remaining portions of this act.

APPENDIX E

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APPENDIX F

REGIONAL AND HARBOR MAPS

MAP	TITLE
19	WAUKEGAN HARBOR
20	CHICAGO HARBOR
22	CALUMET HARBOR AND RIVER
23	LAKE CALUMET HARBOR
24	INDIANA HARBOR
25	MICHIGAN CITY HARBOR
26	ILLINOIS-INDIANA HARBOR AND WATERWAY FEATURES ALONG LAKE MICHIGAN.

(Report of Illinois-Indiana Bi-State Development and Study Commission)

*881-724
5-25
CC

[illegible]

CORPS OF ENGINEERS

U. S. ARMY

19

WAUKEGAN

SAND ST.

E J & E RY

SLIP NO. 3

AMERICAN STEEL & WIRE CO

GEORGE A GREEN CONSTRUCTION CO

SLIP NO. 1

NORTHWESTERN HANNA CO

GENERAL MOTORS CORP

LAKE

MICHIGAN

JOHNSON MOTOR CO

UPSTREAM LIMIT OF FEDERAL PROJECT

U S PROPERTY AREA D 53 A

CITY ST.

CLAYTON ST.

PUBLIC WHARF

HARBOR ST.

CITY PARK

BASIN

PROJECT DEPTH 18 FT.

REVETMENT

CITY FILTRATION PL.

NORTH PIER

SHORE CONNECTION

NORTH BREAKWATER

U. S. LIGHT

HARBOR

LIMIT OF PROJECT

PROJECT DEPTH 22 FT

CHANNEL

TO DUGAN

MADISON ST.

41 & 42

U. S. PROP'Y AREA 1.18 ACRES

DEPTH 17 FT

TO BE DREDGED

SOUTH PIER

U S LIGHT

24" WATER INTAKE

19.7' WATER OVER CRIB

WATER ST.

LAKE ST.

A 398'

B 100'

C 299'

D 238'

E 271'

F 388'

G 722'

J 445'

K 998'

M 134'

N 121' 118'

O

P 1332'

R

L 220'

200'

390'

NOTE

PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5' ABOVE MEAN TIDE NEW YORK CITY.

WAUKEGAN HARBOR, ILLINOIS

IN 3 SHEETS

SHEET NO. 1

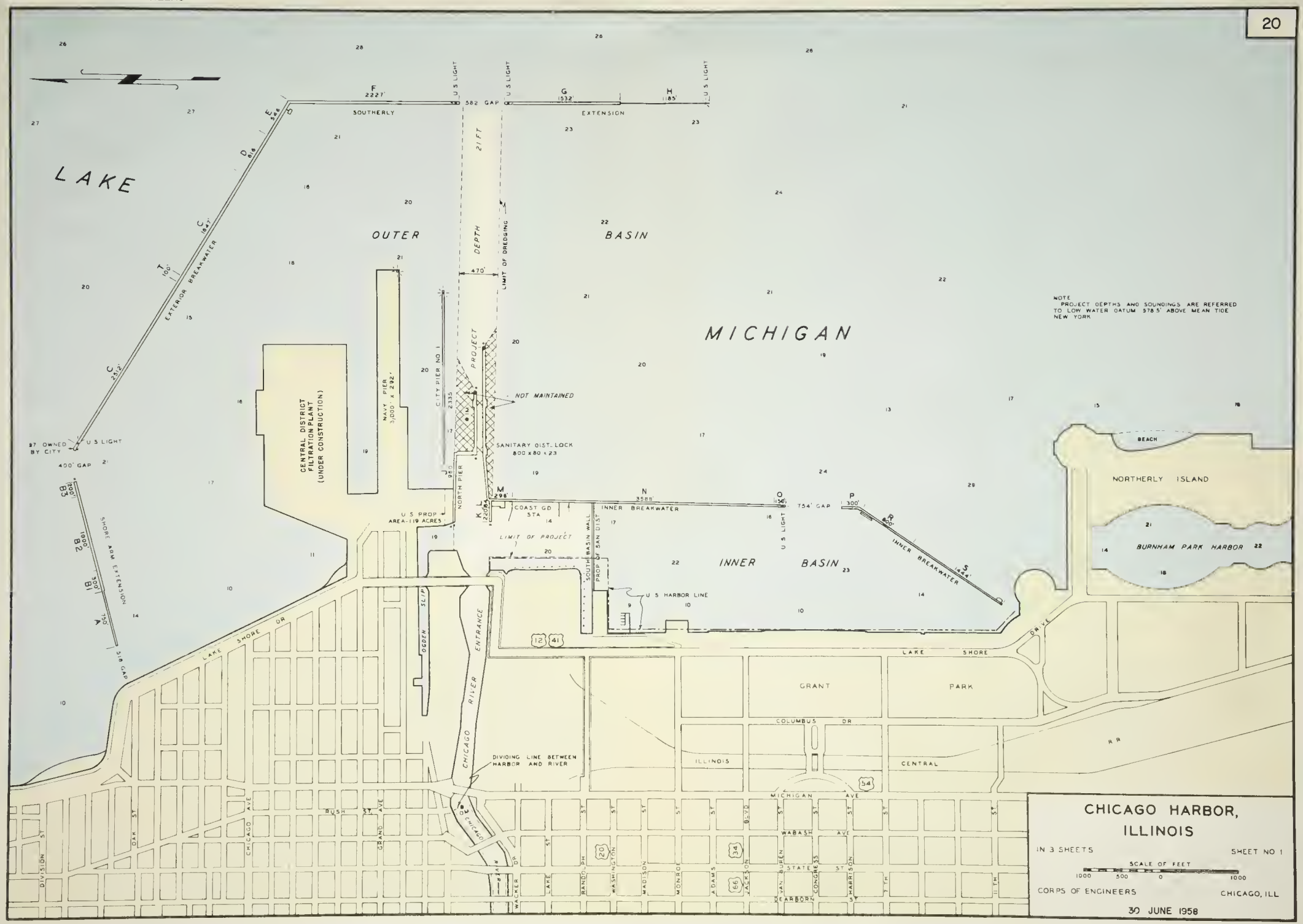
SCALE OF FEET

100 0 500 1000 1500

CORPS OF ENGINEERS

CHICAGO, ILL.

30 JUNE 1958



CHICAGO HARBOR, ILLINOIS

IN 3 SHEETS SHEET NO 1

SCALE OF FEET
1000 500 0 1000

CORPS OF ENGINEERS CHICAGO, ILL.

30 JUNE 1958

CHICAGO HARBOR, ILLINOIS

PROJECT: The River and Harbor Acts of 11 July 1870, 14 June 1880, 3 March 1899, 25 July 1912, 2 March 1919, 3 March 1931, and 2 March 1945 provided for an inner timber crib breakwater 4036 feet long with 300 foot shore return on north end and a detached southerly extension 2550 feet long separated by a 754 foot gap, enclosing an inner basin of about 224 acres; an exterior timber crib breakwater 5413 feet long with a detached shore arm extension 2250 feet long separated by a 400 foot gap, and a rubble mound and concrete caisson southerly extension 5000 feet long exclusive of a 500 foot entrance gap, enclosing an outer basin of about 970 acres; maintenance dredging to a depth of 21 feet of that part of inner basin north of north boundary of Grant Park, and entrance to Chicago River from the lake to Rush Street over a width varying from 470 feet to 190 feet; also maintenance of 900 feet of north pier east of entrance to Ogden Slip.

PROGRESS: Project was completed in 1923.

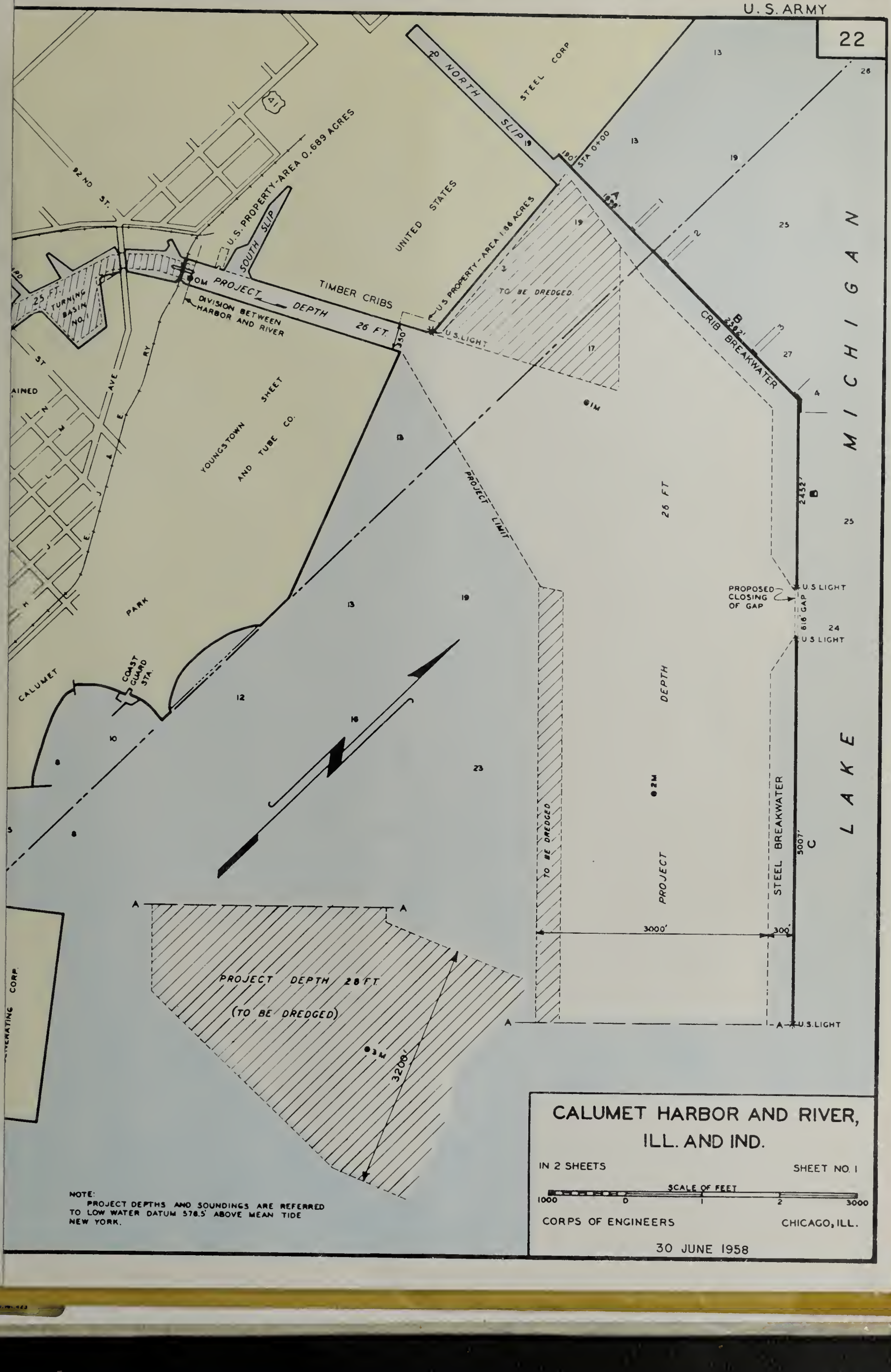
COST OF CONSTRUCTION: $3,855,849.

CONTROLLING DEPTH:

Lake to Rush Street	21'

U. S. ARMY

22



NOTE:
PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5' ABOVE MEAN TIDE NEW YORK.

CALUMET HARBOR AND RIVER, ILL. AND IND.

IN 2 SHEETS

SHEET NO. 1

SCALE OF FEET
1000 0 1 2 3000

CORPS OF ENGINEERS

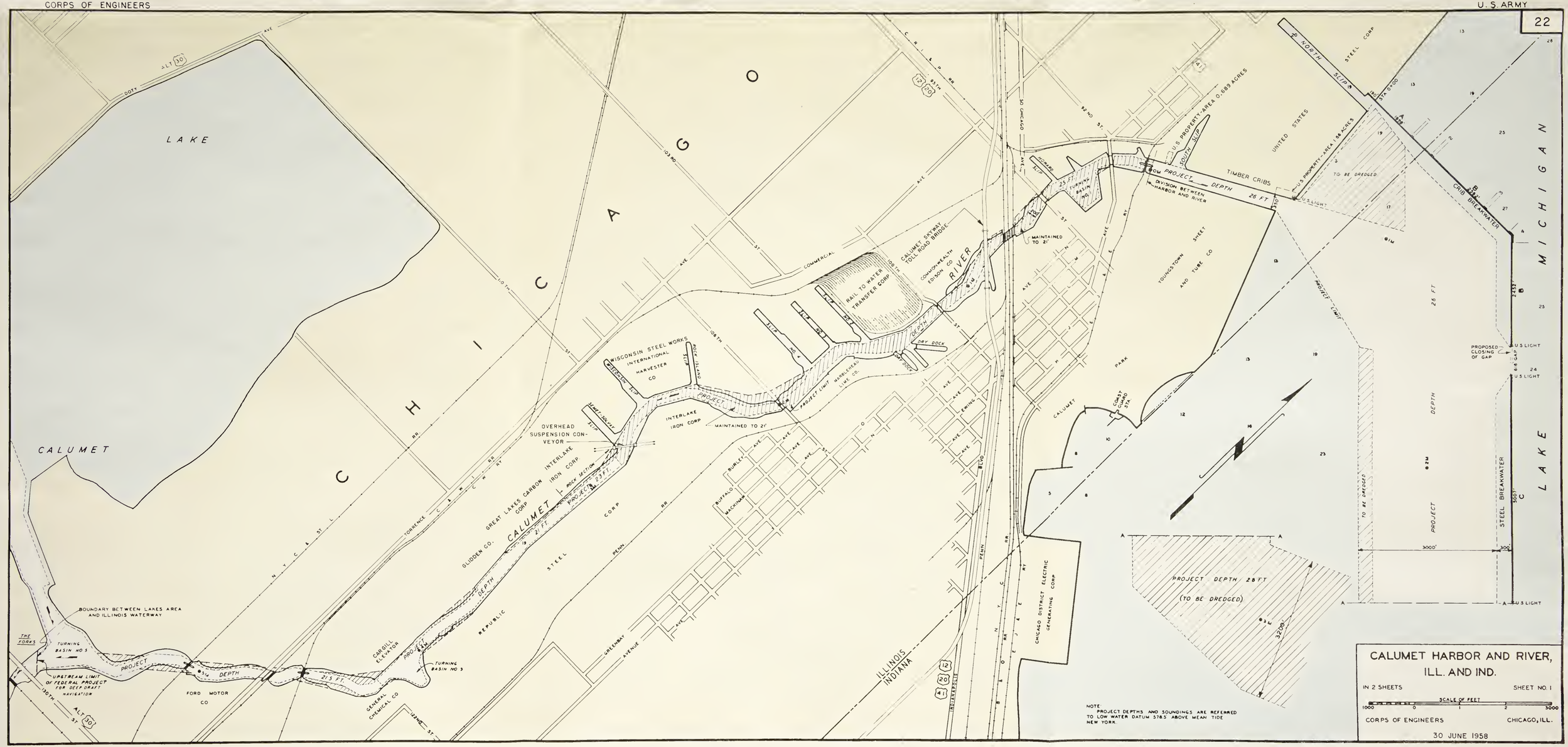
CHICAGO, ILL.

30 JUNE 1958

CORPS OF ENGINEERS

U. S. ARMY

22



NOTE
PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5 ABOVE MEAN TIDE NEW YORK

CALUMET HARBOR AND RIVER, ILL. AND IND.

IN 2 SHEETS

SHEET NO. 1

SCALE OF FEET
1000 0 1 2 3000

CORPS OF ENGINEERS

CHICAGO, ILL.

30 JUNE 1958

CORPS OF ENGINEERS

U. S. ARMY

23

LAKE

MAX DEPTH 9'

CALUMET

S. DOTY AVE.

ALT 30

LIMIT OF PROJECT

DIKE

PROJECT DEPTH

500'

21 FT

UPSTREAM LIMIT OF FEDERAL PROJECT FOR DEEP DRAFT NAVIGATION

CHICAGO REGIONAL PORT AUTHORITY

TURNING BASIN NO. 5

CALUMET RIVER

THE FORKS
6.14 MI.

BOUNDARY BETWEEN LAKES AREA AND ILLINOIS WATERWAY

E. 130 TH ST.

C. S. S. & S. B. RR. (ELEC.)

6.45 MI

THOMAS J. O'BRIEN LOCK AND CONTROLLING WORKS UNDER CONSTRUCTION

PROJECT DEPTH 11.4 FT.

C. & W. I. RR.

TORRENCE AVE

N. Y. C. & ST. L. RR.

C. W. RR.

CHICAGO

LITTLE CALUMET RIVER PROJECT DEPTH 11.4 FT.

E. 130TH ST.

POND

CALUMET CITY

B. & O. C. T. RR.

I. H. B. RR.

DOLTON

BURNHAM

CALUMET RIVER THE JUNCTION

INCLUDED IN PROJECT MAPS FOR ILLINOIS WATERWAY

NOTE
PROJECT DEPTH AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5' ABOVE MEAN TIDE NEW YORK.

LAKE CALUMET, ILLINOIS

IN 1 SHEET

SHEET NO. 1

SCALE OF FEET

1000 500 0 1000 2000 3000

CORPS OF ENGINEERS

CHICAGO, ILL.

30 JUNE 1958

LAKE CALUMET, ILLINOIS

PROJECT: The River and Harbor Act of 30 August 1935 provided for dredging entrance to and south end of Lake Calumet, as shown by area marked on map, to 21 foot depth at L. W. D. (578.5).

PROGRESS: Project was completed in 1937.

COST OF CONSTRUCTION: $405,011.

CONTROLLING DEPTHS:

Entrance channel	21'
Lake dredged area	21'

CORPS OF ENGINEERS

U.S. ARMY

24

HAMMOND
EAST CHICAGO

WHITING
EAST CHICAGO

WHITE OAK AVE

UPPER LIMIT OF FEDERAL PROJECT

C. T. RR

B & O

LAKE

SINCLAIR REFINING CO

BLVD

GEORGE

NORTHERN INDIANA PUBLIC SURVICE CO.

STANDARD OIL CO.

PROJECT BRANCH

INDIANAPOLIS

SOCONY MOBIL OIL CO.

SHELL PETROLEUM CO.

U S GYPSUM CO

THE FORKS 2.01 MI.

THE TEXAS CO

SOCONY-MOBIL OIL CO.

141 ST

20

BRANCH PROJECT

PROPERTY AREA- 1.09 ACRES NORTHERN IND. DOCK CO

U.S. PHILLIPS PET CO

UPPER LIMIT OF FEDERAL PROJECT FOR DEEP DRAFT NAVIGATION

RIVER

AREA TO BE DREDGED

CALUMET

ST.

B. & O. C. T. RR.

CHICAGO AVE

312

PROJECT DEPTH 28 FT

PROJECT DEPTH 27 FT

PROJECT LIMIT

800'

2324

28' IM. FT.

U.S LIGHT

BREAKWATER

EASTERLY

B U.S LIGHT 1307'

CO.

CONSTRUCTION

CHIGAN

31 27 28 28 25 24 29 27 18 25 18 24 21 20

INDIANA HARBOR, INDIANA

IN 2 SHEETS

SHEET NO. 1

SCALE OF FEET

1000 0 1000 2000 3000

CORPS OF ENGINEERS

CHICAGO, ILL

30 JUNE 1958

CORPS OF ENGINEERS

U. S. ARMY

24

INDIANA HARBOR, INDIANA

IN 2 SHEETS

SHEET NO. 1

SCALE OF FEET

1000 0 1000 2000 3000

CORPS OF ENGINEERS

CHICAGO, ILL.

30 JUNE 1958

NOTE
PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5' ABOVE MEAN TIDE NEW YORK.

25

MICHIGAN

LAKE

NOTE.
PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM 578.5' ABOVE MEAN TIDE NEW YORK

U S LIGHT
U S DETACHED BREAKWATER
U S LIGHT
U S LIGHT
U S EAST PIER
U S EAST BREAKWATER
EASTERLY 396' ABANDONED
PROJECT
LIMIT OF PROJECT
U S LIGHT
U S WEST PIER
PROJECT DEPTH 12' 12
OUTER
BASIN
PROJECT DEPTH 8'
GAP
U S LIGHT
WASHINGTON PARK
PARK ROAD
MICHIGAN CITY FILTRATION PLANT
C I & L RR
18 FT
USCG STA
CITY WHARF DEPTH
TURNING BASIN NO 1
DIVIDING LINE BETWEEN HARBOR AND CREEK
CHICAGO, INDIANAPOLIS & LOUISVILLE RR
UPSTREAM LIMIT OF FEDERAL PROJECT
TURNING BASIN NO 2
TRAIL
CREEK
MULLIGAN ST
MICHIGAN CENTRAL RR
SECOND ST
CENTER ST
COOK ST
UNION ST
EMILY ST
MILLER ST
PERU ST
NEW YORK, CHICAGO & ST. LOUIS R.R.
MICHIGAN CITY SEWAGE TREATMENT PLANT
NEW YORK, CHICAGO & ST LOUIS RR
EIGHTH ST
NORTHERN INDIANA PUBLIC SERVICE CO
MICHIGAN CENTRAL RR
SECOND ST
MICHIGAN ST
FOURTH ST
WASHINGTON ST
FIFTH ST
FRANKLIN ST
PINE ST
SPRING ST
CEDAR ST
WABASH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
TO 20
12

MICHIGAN CITY HARBOR, INDIANA

IN 3 SHEETS SHEET NO 1

SCALE OF FEET
0 200 400 800 1200 1800

CORPS OF ENGINEERS CHICAGO, ILL

30 JUNE 1958

MICHIGAN CITY HARBOR, INDIANA

PROJECT: The River and Harbor Acts of 1870, 1881, 1882, 3 March 1889, 3 March 1905, 21 January 1927 and 30 August 1935 provided for detached breakwater; east and west entrance piers; dredged channel 18 foot depth at L. W. D. (578.5) and 120 feet to 150 feet wide from lake to upper of two turning basins, which are also to have 18 foot depths at L. W. D. (578.5); repair and restoration of westerly 1000 feet of old east breakwater; dredging anchorage shoreward of restored section to 12 foot depth at L. W. D. (578.5) in northerly portion and 8 feet in southerly portion; enlarging entrance to this basin to 66 feet through east pier.

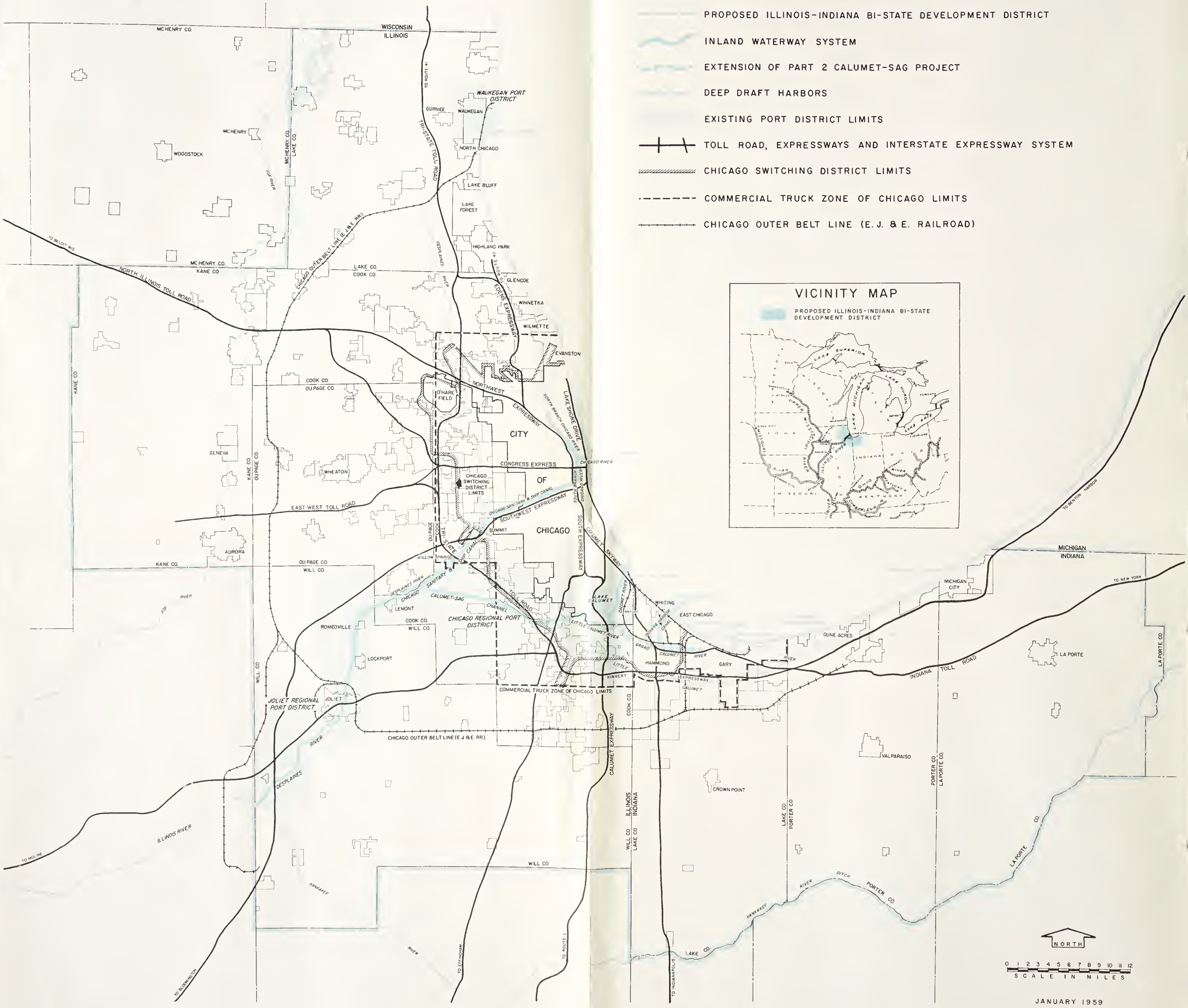
PROGRESS: Project completed in 1936.

COST OF CONSTRUCTION: $1,499,774.

CONTROLLING DEPTHS:

Entrance Channel to Naval Armory Slip	18'
Naval Armory Slip to Turning Basin No. 2	15' - 3'
Turning Basin No. 2	0'
Outer Basin	12' - 8'

ILLINOIS-INDIANA HARBOR AND WATERWAY FEATURES ALONG LAKE MICHIGAN



ILLINOIS-INDIANA BI-STATE DEVELOPMENT AND STUDY COMMISSION

UNIVERSITY OF ILLINOIS-URBANA
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